

BUDGET ESTIMATES

FISCAL YEAR 2020

**FEDERAL RAILROAD
ADMINISTRATION**

SUBMITTED FOR THE USE OF
THE COMMITTEES ON APPROPRIATIONS

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION**

FY 2020 PRESIDENT’S BUDGET JUSTIFICATION

TABLE OF CONTENTS

	<u>Page</u>
Section 1: Overview	
Administrator’s Overview	1
Organization Charts	5
Section 2: Budget Summary Tables	
Comparative Statement of New Budget Authority	7
Total Budgetary Resources by Appropriations Account	8
Budget Request by DOT Strategic and Organizational Goals	9
Budget Authority	10
Budget Outlays	11
Summary of Requested Funding Changes from Base	12
Working Capital Fund	19
Full-Time Equivalents (FTE)	20
Full-Time Permanent Positions (FTP)	21
Section 3: Budget Request by Appropriation Account	
Safety and Operations	23
Railroad Research and Development.....	41
Amtrak	73
Consolidated Rail Infrastructure and Safety Improvements	93
Restoration and Enhancement Grants	103

Railroad Rehabilitation and Improvement Financing Program	111
Other Accounts	121
FRA Administrative Provisions.....	139
Section 4: Research, Development, and Technology	141
Section 5: Information Technology Expenditure	143
Section 6: History of Appropriations	147

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION**

ADMINISTRATOR'S OVERVIEW

The Federal Railroad Administration's (FRA) mission is to enable the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future. FRA executes this mission by developing and enforcing minimum safety levels, promoting non-regulatory safety improvement initiatives, facilitating regional rail planning, managing Federal investments in rail services and infrastructure, and fostering select research and development efforts to advance innovative technologies and best practices.

The FY 2020 President's Budget requests \$2.0 billion offset by \$50.0 million in rail safety user fees for FRA, including \$213.1 million for the Safety and Operations account, \$19.0 million for the Research and Development account, and \$936.5 million for Amtrak grants. This request and the initiatives proposed for funding directly align with the Secretary's strategic goals and budget priorities for FY 2020: safety, infrastructure, innovation, and accountability.

SAFETY: FRA's top priority is safety. Resources at the requested level will enable FRA to continue addressing railroad safety comprehensively, by funding highly skilled and well trained inspectors and specialists; data-driven oversight, enforcement, and outreach activities; and targeted research and development projects.

- Positive Train Control (PTC): FRA is incurring a substantial workload increase as railroads approach critical implementation milestones. By law, railroads have until December 31, 2020, to achieve PTC implementation, that is, an FRA-certified and interoperable system—including all hardware, software, and other components—fully installed, sufficiently tested, and operating on all mandated route miles. To oversee the railroads' implementation and provide technical assistance, FRA is leveraging all available personnel and financial resources and relying, in part, on private companies with expertise in advanced railroad signal technology to ensure timely reviews and responses to railroads in advance of the 2020 deadline.
- Trespasser Prevention and Highway-Rail Grade Crossing Safety: Trespassing and highway-rail grade crossing incidents account for almost all rail-related deaths. The number of trespasser deaths has averaged over 450 and the number of grade crossing deaths has averaged over 252 per year since 2009. The risk of highway-rail grade crossing incidents may likely grow with future train and highway traffic increases.

FRA is requesting \$650,000 in FY 2020 funds to support execution of the national trespasser prevention strategy Congress directed us to issue in FY 2018. FRA plans to develop a model to estimate trespassing risk in communities and to engage local government and community leaders in high casualty locations in developing cooperative

approaches to reduce trespassing. Because FRA does not directly influence some significant safety risks, including highway vehicle miles traveled and driver and pedestrian behavior, FRA partners with States, local governments, and organizations that can complement FRA activities.

INFRASTRUCTURE: FRA's safety inspector and specialist workforce monitors the safety of the nation's rail infrastructure, including track, bridges and tunnels, rolling stock, train control and communications systems, and grade crossings. In addition, FRA's engineers, planners, environmental protection specialists, and grant managers ensure public funds support projects that sponsors complete on time and on budget and improve transportation.

- Intercity Passenger Rail: The FY 2020 President's Budget calls for major reforms in the Federal approach to Amtrak. A rationalized Amtrak network focused on operating Northeast Corridor and state-supported trains will use taxpayer funds more efficiently and will better serve transportation demands of the American public. FRA requests \$936.5 million to support Amtrak and FRA's stewardship of those public funds, including \$325.5 million for the Northeast Corridor and \$611.0 million for the National Network of state-supported and long distance services.
- Transportation Technology Center (TTC): The President's FY 2020 Budget requests resources to ensure TTC has appropriate facilities for training Federal and State safety inspectors and specialists in a quality and safe learning environment. TTC has been a vital resource since the 1970s in FRA's and the railroads' shared pursuit of safer, more reliable, and more efficient rail services. TTC has matured, evolved, and prospered through FRA's unique partnership with the Association of American Railroads for TTC operation. The partnership has a robust, multi-year research and development program underway. To leverage the full scale test facilities and opportunities for hands-on exercises, FRA has been offering technical training at TTC. Some of TTC's 15 buildings, 50 structures, and multiple laboratories are now almost 50 years old have significant backlogs of maintenance and rehabilitation needs.

INNOVATION: FRA collaborates with the railroad industry to leverage Federal investments in developing innovative technologies and practices that improve rail safety, reliability, and efficiency. To achieve broad public safety benefits, FRA also conducts higher-risk and longer-term projects that private industry would otherwise not undertake. The \$19.0 million FRA requests in the FY 2020 Budget will advance transformative safety technology initiatives, with particular focus on safely automating railroad operations and inspection functions.

ACCOUNTABILITY: FRA personnel are working to reduce regulatory burdens, implement critical safety programs effectively, and streamline infrastructure project development and delivery processes. DOT and FRA are actively reforming regulations to reduce the cost of compliance, consistent with minimum safety standards. We expect to finalize eight deregulatory actions in FY 2019, saving about \$34 million dollars per year in regulatory burden. For example, FRA updated passenger equipment regulations to establish alternate crashworthiness and occupant protection standards that allow for the development of advanced technology and increase safety benefits. To reduce costs and unnecessary burdens that delay infrastructure projects, we are cutting red tape and delivering infrastructure and safety improvements more rapidly to spur economic growth.

With this mindset, FRA is sun setting its highly effective Crude Oil Route Track Examination (CORTEEx) program. CORTEEx achieved its objectives to change industry and FRA safety culture about track conditions on rail routes with higher volumes of crude oil transportation. The approach this program initiated has become ingrained into FRA's inspection practices, contributing to improved safety performance of energy product transportation.

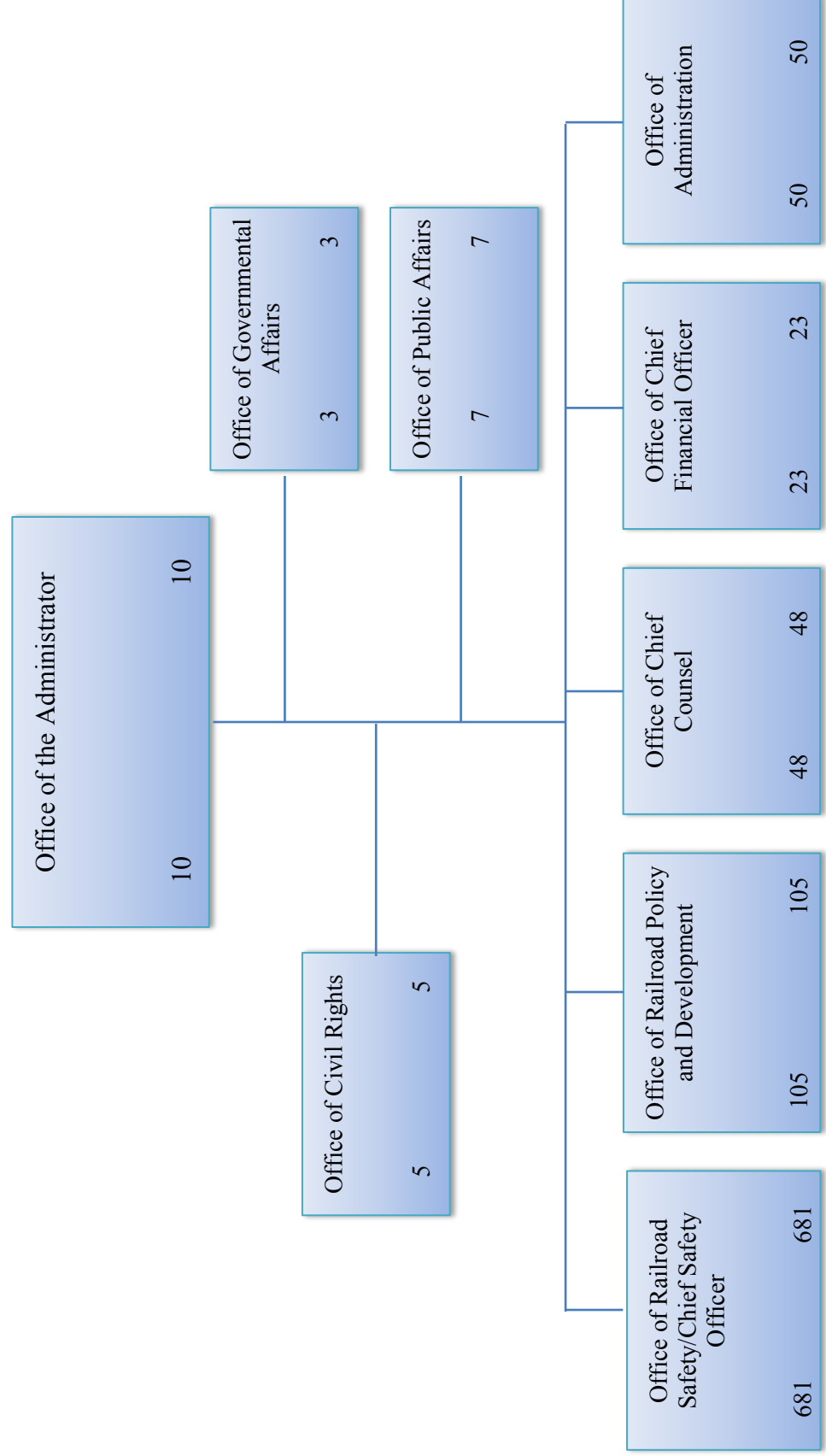
FRA created CORTEEx in 2015 following the rapid increase in rail transportation of crude oil and several high-consequence accidents involving trains carrying crude oil. In each CORTEEx 2-week focused inspection, dozens of local and out-of-region FRA track inspectors would converge on a region to look for safety hazards, defects, and violations of Federal track safety regulations on these higher risk corridors. When FRA found such problems, inspectors would take prompt actions such as notifying the track owners and recommending civil penalty assessments. During 2015, FRA issued more than 6,000 civil penalty violations, 23 percent more than the previous year. During the program's existence, FRA completed two CORTEEx sessions in each of its eight safety regions. FRA will redirect these scarce resources, about \$3 million in staff and travel costs over 3 years, to other priorities.

The U.S. rail network is critical to national economic productivity and serves an indispensable role in fulfilling the freight and passenger mobility needs of a population projected to increase by more than 55 million people over the next 25 years. This FY 2020 Budget Request will enable FRA to continue to bring about continuous safety, reliability, and efficiency improvements. The more effective we are in advancing rail safety with data-driven decisions and innovative technologies, the more likely we are to reduce or eliminate deaths, injuries, accidents, transportation disruptions, and economic costs.

DEPARTMENT OF TRANSPORTATION FEDERAL RAILROAD ADMINISTRATION

FY 2019 Organization Chart

932 Full-Time Positions (FTP); 932 Full-Time Equivalents (FTE)



DEPARTMENT OF TRANSPORTATION FEDERAL RAILROAD ADMINISTRATION

FY 2020 Organization Chart

911 Full-Time Positions (FTP); 911 Full-Time Equivalents (FTE)

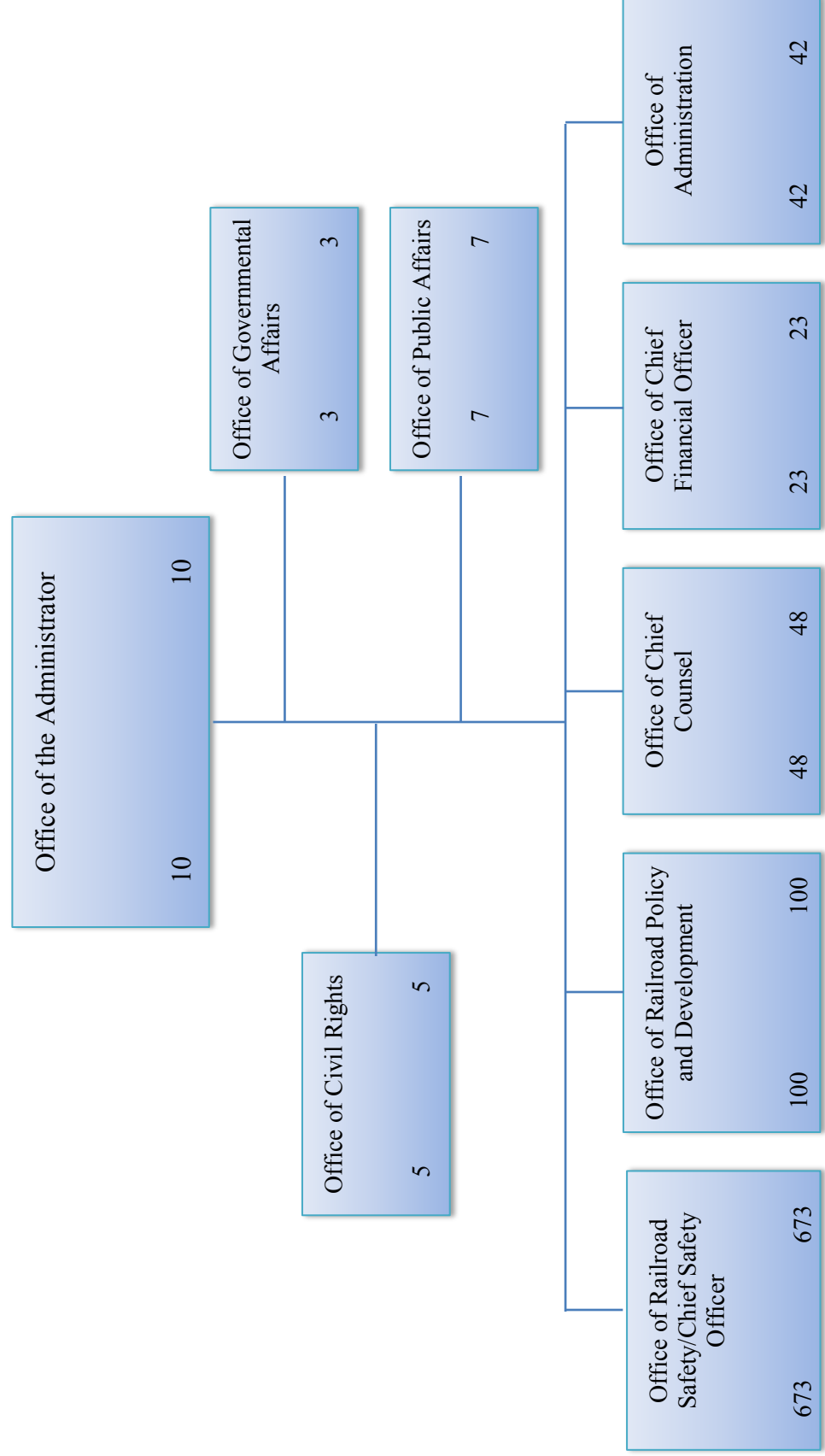


EXHIBIT II-1

**FY 2020 Comparative Statement of New Budget Authority
FEDERAL RAILROAD ADMINISTRATION
(\$000)**

ACCOUNT NAME	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST
Safety and Operations	221,698	221,698	221,698	213,134
Railroad Research and Development	40,600	40,600	40,600	19,000
Northeast Corridor Grants to the National Railroad Passenger Corporation	650,000	650,000	650,000	325,466
National Network Grants to the National Railroad Passenger Corporation	1,291,600	1,291,600	1,291,600	611,000
Consolidated Rail Infrastructure and Safety Improvements	592,547	592,547	255,000	330,000
Federal-State Partnership for State of Good Repair	250,000	250,000	400,000	-
Restoration and Enhancement Grants	20,000	20,000	5,000	550,000
Magnetic Levitation Technology Deployment Program	-	-	10,000	-
Railroad Rehabilitation and Improvement Financing Program	25,000	25,000	17,000	-
Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service (Cancellation)	-	-	-	(53,404)
Rail Line Relocation and Improvement Program (Cancellation)	-	-	-	(2,322)
Rail Safety User Fee	-	-	-	(50,000)
TOTAL	3,091,445	3,091,445	2,890,898	1,942,874
Appropriations	3,091,445	3,091,445	2,890,898	2,048,600
Rescissions	-	-	-	(55,726)
Offsetting Collections	-	-	-	(50,000)

EXHIBIT II-2
FY 2020 TOTAL BUDGETARY RESOURCES BY APPROPRIATION ACCOUNT
FEDERAL RAILROAD ADMINISTRATION
Appropriations, Obligation Limitations, and Exempt Obligations
(\$000)

ACCOUNT NAME	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST
Safety and Operations	221,698	221,698	221,698	213,134
Railroad Research and Development	40,600	40,600	40,600	19,000
Northeast Corridor Grants to the National Railroad Passenger Corporation	650,000	650,000	650,000	325,466
National Network Grants to the National Railroad Passenger Corporation	1,291,600	1,291,600	1,291,600	611,000
Consolidated Rail Infrastructure and Safety Improvements	592,547	592,547	255,000	330,000
Federal-State Partnership for State of Good Repair	250,000	250,000	400,000	-
Restoration and Enhancement Grants	20,000	20,000	5,000	550,000
Magnetic Levitation Technology Deployment Program	-	-	10,000	-
Railroad Rehabilitation and Improvement Financing Program	25,000	25,000	17,000	-
TOTAL:	3,091,445	3,091,445	2,890,898	2,048,600

EXHIBIT II-3
FY 2020 BUDGET REQUEST BY DOT STRATEGIC AND ORGANIZATIONAL GOALS
Appropriations, Obligation Limitation, and Exempt Obligations
FEDERAL RAILROAD ADMINISTRATION
(\$000)

	Safety	Critical Infrastructure	Innovation and Emerging Technologies	Accountability through Regulatory Reform	Total
SAFETY AND OPERATIONS	\$ 137,744	\$ 14,533	\$ 3,843	\$ 57,014	\$ 213,134
RAILROAD RESEARCH AND DEVELOPMENT	\$ -	\$ -	\$ 19,000	\$ -	\$ 19,000
NORTHEAST CORRIDOR GRANTS TO THE NATIONAL PASSENGER RAILROAD CORPORATION	\$ -	\$ 323,839	\$ -	\$ 1,627	\$ 325,466
NATIONAL NETWORK GRANTS TO THE NATIONAL PASSENGER RAILROAD CORPORATION	\$ -	\$ 607,945	\$ -	\$ 3,055	\$ 611,000
CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS	\$ -	\$ 326,700	\$ -	\$ 3,300	\$ 330,000
RESTORATION AND ENHANCEMENT GRANTS	\$ -	\$ 544,500	\$ -	\$ 5,500	\$ 550,000
CAPITAL ASSISTANCE FOR HIGH SPEED RAIL COORIDORS AND INTERCITY PASSENGER RAIL SERVICE (CANCELLATION)	\$ -	\$ (53,404)	\$ -	\$ -	\$ (53,404)
RAIL LINE RELOCATION AND IMPROVEMENT PROGRAM (CANCELLATION)	\$ -	\$ (2,322)	\$ -	\$ -	\$ (2,322)
SAFETY USER FEE	\$ (50,000)	\$ -	\$ -	\$ -	\$ (50,000)
TOTAL	\$ 83,144	\$ 634,841	\$ 22,843	\$ 67,446	\$1,942,874

EXHIBIT II-4
FY 2020 BUDGET AUTHORITY
FEDERAL RAILROAD ADMINISTRATION
(\$000)

ACCOUNT NAME	M / D	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST
Safety and Operations	D	221,698	221,698	221,698	213,134
Railroad Research and Development	D	40,600	40,600	40,600	19,000
Track Research		11,279	11,279	11,279	6,000
Rolling Stock		10,322	10,322	10,322	5,210
Train Control & Communications		8,086	8,086	8,086	4,400
Human Factor		6,042	6,042	6,042	2,090
Railroad System Issues		4,871	4,871	4,871	1,300
Northeast Corridor Grants to the National Railroad Passenger Corporation	D	650,000	650,000	650,000	325,466
National Network Grants to the National Railroad Passenger Corporation	D	1,291,600	1,291,600	1,291,600	611,000
Consolidated Rail Infrastructure and Safety Improvements	D	592,547	592,547	255,000	330,000
Federal-State Partnership for State of Good Repair	D	250,000	250,000	400,000	-
Restoration and Enhancement Grants	D	20,000	20,000	5,000	550,000
Magnetic Levitation Technology Deployment Program	D	-	-	10,000	-
Railroad Rehabilitation and Improvement Financing Program	D	25,000	25,000	17,000	-
Railroad Rehabilitation and Improvement Financing Program	M	100,371	60,811	60,811	-
Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service (Cancellation)	D	-	-	-	(53,404)
Rail Line Relocation and Improvement Program (Cancellation)	D	-	-	-	(2,322)
Rail Safety User Fee	D	-	-	-	(50,000)
TOTAL:		3,191,816	3,152,256	2,951,709	1,942,874
[Mandatory]		100,371	60,811	60,811	-
[Discretionary]		3,091,445	3,091,445	2,890,898	1,942,874

EXHIBIT II-5
FY 2020 OUTLAYS
FEDERAL RAILROAD ADMINISTRATION
(\$000)

ACCOUNT NAME	M / D	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST
Safety and Operations	D	202,173	233,000	233,000	179,000
Railroad Research and Development	D	31,163	35,000	35,000	47,000
Grants to the National Railroad Passenger Corporation	D	5,299	-	-	3,000
Northeast Corridor Grants to the National Railroad Passenger Corporation	D	643,190	651,000	651,000	328,000
National Network Grants to the National Railroad Passenger Corporation	D	1,285,550	1,291,000	1,291,000	614,000
Capital and Debt Service Grants to the National Railroad Passenger Corporation	D	64,948	4,000	4,000	2,000
Consolidated Rail Infrastructure and Safety Improvements	D	-	-	-	43,000
Federal-State Partnership for State of Good Repair	D	-	-	-	8,000
Restoration and Enhancement Grants	D	-	-	-	550,000
Railroad Safety Grants	D	6,007	27,000	27,000	13,000
Capital Assistance to States -- Intercity Passenger Rail Service	D	10,817	11,000	11,000	1,000
Northeast Corridor Improvement Program	D	-	6,000	6,000	7,000
Pennsylvania Station Redevelopment Project	D	22,752	7,000	7,000	6,000
Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service	D	73,023	81,000	81,000	222,000
Next Generation High-Speed Rail	D	594	1,000	1,000	-
Rail Line Relocation and Improvement Program	D	737	3,000	3,000	-
Railroad Safety Technology Program	D	3,187	-	-	-
Magnetic Levitation Technology Deployment Program	D	-	-	-	-
Railroad Rehabilitation and Improvement Program - Program Account	D	474	-	-	1,000
Railroad Rehabilitation and Improvement Program - Program Account (Upward Reestimates)	M	100,371	61,000	61,000	-
TOTAL:		2,450,285	2,411,000	2,411,000	2,024,000
[Mandatory]		100,371	61,000	61,000	-
[Discretionary]		2,349,914	2,350,000	2,350,000	2,024,000

EXHIBIT II-6
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
Federal Railroad Administration
Appropriations, Obligation Limitations, and Exempt Obligations
(\$000)

FRA Total	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	Baseline Changes				FY 2020 Baseline Estimate	Program Increases/Decreases	FY 2020 Request	
				Annualization of FY 2019 Pay Raises	Annualization of FY 2019 FTE	FY 2020 Pay Raises	One more Compensable Day (262 days)				GSA Rent
PERSONNEL RESOURCES (FTE)											
Direct FTE	903	932	932	-	-	-	-	(16)	916	(5)	911
FINANCIAL RESOURCES											
ADMINISTRATIVE EXPENSES											
Salaries and Benefits	131,825	131,825	133,704	627	-	-	502	-	(2,848)	(766)	131,218
Benefits for Former Employees (AK RR)	857	857	857	-	-	-	-	-	-	-	857
Travel	12,040	12,060	12,060	-	-	-	-	-	-	-	12,060
Transportation	150	150	150	-	-	-	-	-	-	-	150
GSA Rent	6,293	6,293	6,293	-	-	-	-	321	-	-	6,614
Communications & Utilities	1,079	1,079	1,079	-	-	-	-	-	-	-	1,079
Printing	518	518	518	-	-	-	-	-	-	-	518
Advisory and assistance services	7,725	7,725	4,200	-	-	-	-	-	-	-	5,180
Other Services:	21,353	21,353	19,474	-	-	-	-	-	(6,530)	(8,669)	9,380
-WCF	9,945	9,945	9,945	-	-	-	-	-	9,739	790	4,275
-ESC	3,262	3,262	3,262	-	-	-	-	-	-	-	3,262
Supplies	394	394	394	-	-	-	-	-	-	-	394
Equipment	1,775	1,775	1,775	-	-	-	-	-	-	(300)	1,475
Admin Subtotal	197,216	197,236	193,711	627	-	-	502	321	361	(3,783)	191,738
PROGRAMS											
Safety and Operations	42,633	42,633	42,633	-	-	-	-	-	-	(7,055)	35,578
Railroad Research and Development	38,282	38,262	38,262	-	-	-	-	-	-	(19,962)	18,300
Grants to Amtrak	1,931,892	1,931,892	1,931,892	-	-	-	-	-	-	(1,000,108)	931,784
Consolidated Rail Infrastructure and Safety Improvements	586,622	586,622	252,450	-	-	-	-	-	-	74,250	326,700
Federal-State Partnership for State of Good Repair	250,000	250,000	400,000	-	-	-	-	-	-	(400,000)	-
Restoration and Enhancement Grants	19,800	19,800	4,950	-	-	-	-	-	-	4,950	544,500
Magnetic Levitation Technology Deployment Program	-	-	10,000	-	-	-	-	-	-	(10,000)	-
Railroad Rehabilitation and Improvement Financing Program	25,000	25,000	17,000	-	-	-	-	-	-	(17,000)	-
Programs Subtotal	2,894,229	2,894,209	2,697,187	-	-	-	-	-	-	(840,325)	1,856,862
Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service	-	-	-	-	-	-	-	-	-	(53,404)	(53,404)
Rail Line Relocation and Improvement Program	-	-	-	-	-	-	-	-	-	(2,322)	(2,322)
Rail Safety User Fee	-	-	-	-	-	-	-	-	-	(50,000)	(50,000)
TOTAL	3,091,445	3,091,445	2,890,898	627	-	-	502	321	361	(949,835)	1,942,874

EXHIBIT II-6
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
Federal Railroad Administration
Appropriations, Obligation Limitations, and Exempt Obligations
(\$000)

Safety and Operations	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	Annualization of FY 2019 Pay Raises	Annualization of FY 2019 FTE Raises	FY 2020 Pay Raises	Baseline Changes			FY 2020 Baseline Estimate	Program Increases/ Decreases	FY 2020 Request
							One more Compensable Day (262 days)	GSA Rent	WCF Increase/ Decrease	Inflation/ Deflation		
PERSONNEL RESOURCES (FTE)												
Direct FTE	891	920	920	-	-	-	-	-	(16)	-	904	904
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits	130,025	130,025	131,878	618	-	-	498	-	(2,848)	-	130,145	130,145
Benefits for Former Employees (AK RR)	857	857	857	-	-	-	-	-	-	-	857	857
Travel	11,790	11,790	11,790	-	-	-	-	-	-	-	11,790	11,790
Transportation	150	150	150	-	-	-	-	-	-	-	150	150
GSA Rent	6,293	6,293	6,293	-	-	-	-	321	-	-	6,614	6,614
Communications & Utilities	1,079	1,079	1,079	-	-	-	-	-	-	-	1,079	1,079
Printing	500	500	500	-	-	-	-	-	-	-	500	500
Other Services:	13,295	13,295	11,442	-	-	-	-	-	(6,520)	-	4,912	816
-WCF	9,945	9,945	9,945	-	-	-	-	-	9,739	-	19,684	20,474
-ESC	3,262	3,262	3,262	-	-	-	-	-	-	-	3,262	3,262
Supplies	394	394	394	-	-	-	-	-	-	-	394	394
Equipment	1,475	1,475	1,475	-	-	-	-	-	-	-	1,475	1,475
Admin Subtotal	179,065	179,065	179,065	618	-	-	498	321	361	-	180,862	177,556
PROGRAMS												
Automated Track Inspection Program	16,500	16,500	16,500	-	-	-	-	-	-	-	16,500	9,500
Confidential Close Call Reporting System	3,500	3,500	3,000	-	-	-	-	-	-	-	3,000	2,600
RSIS/Data Management	4,800	4,800	4,800	-	-	-	-	-	-	-	4,800	3,700
Rail Grade Crossing Safety	1,000	1,000	1,000	-	-	-	-	-	-	-	1,000	1,000
Bridge Inventory/Support Program	600	600	600	-	-	-	-	-	-	-	600	600
Washington Union Station	1,025	1,025	1,025	-	-	-	-	-	-	-	1,025	1,000
PTC Support	10,000	10,000	10,000	-	-	-	-	-	-	-	10,000	13,000
Drug and Alcohol Program	620	620	620	-	-	-	-	-	-	-	620	861
Security, Other Security Grants	570	570	570	-	-	-	-	-	-	-	570	555
RSAC	225	225	225	-	-	-	-	-	-	-	225	319
Technical Training Standards Division	700	700	700	-	-	-	-	-	-	-	700	700
Transportation Technology Center (TTC)	500	500	500	-	-	-	-	-	-	-	500	500
Rail Enforcement System	593	593	593	-	-	-	-	-	-	-	593	593
Rail Management	-	-	-	-	-	-	-	-	-	-	-	-
Trespass Prevention	-	-	500	-	-	-	-	-	-	-	500	650
Safe Transportation of Energy Products	2,000	2,000	2,000	-	-	-	-	-	-	-	2,000	-
Programs Subtotal	42,633	42,633	42,633	-	-	-	-	-	-	-	42,633	35,578
Rail Safety User Fee	-	-	-	-	-	-	-	-	-	-	-	(50,000)
TOTAL	221,698	221,698	221,698	618	-	-	498	321	361	-	223,495	163,134

EXHIBIT II-6
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
Federal Railroad Administration
Appropriations, Obligation Limitations, and Exempt Obligations
(\$000)

Railroad Research and Development	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	Baseline Changes					FY 2020 Baseline Estimate	Program Increases/ Decreases	FY 2020 Request
				Annualization of FY 2019 Pay Raises	Annualization of FY 2019 FTE Raises	FY 2020 Pay Raises	Compensable Day (262 days)	GSA Rent			
PERSONNEL RESOURCES (FTE)											
Direct FTE	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES											
ADMINISTRATIVE EXPENSES											
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-
Travel	100	120	120	-	-	-	-	-	120	-	120
Transportation	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-
Printing	18	18	18	-	-	-	-	-	18	(18)	-
Advisory and assistance services	1,600	1,600	1,600	-	-	-	-	-	1,600	(1,020)	580
Other Services:	300	300	300	-	-	-	-	-	300	(300)	-
-WCF	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-
Equipment	300	300	300	-	-	-	-	-	300	(300)	-
Admin Subtotal	2,318	2,338	2,338	-	-	-	-	-	2,338	(1,638)	700
PROGRAMS											
Track Research Program	11,279	11,279	11,279	-	-	-	-	-	11,279	(5,279)	6,000
Rolling Stock Program	10,322	10,322	10,322	-	-	-	-	-	10,322	(5,112)	5,210
Train Control & Communications	8,086	8,086	8,086	-	-	-	-	-	8,086	(3,686)	4,400
Human Factors Program	6,042	6,042	6,042	-	-	-	-	-	6,042	(3,952)	2,090
Railroad System Issues	2,553	2,533	2,533	-	-	-	-	-	2,533	(1,933)	600
Programs Subtotal	38,282	38,262	38,262	-	-	-	-	-	38,262	(19,962)	18,300
TOTAL	40,600	40,600	40,600	-	-	-	-	-	40,600	(21,600)	19,000

EXHIBIT II-6
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
Federal Railroad Administration
Appropriations, Obligation Limitations, and Exempt Obligations
(\$000)

Grants to Amtrak	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	Baseline Changes					FY 2020 Baseline Estimate	Program Increases/ Decreases	FY 2020 Request
				Annualization of FY 2019 Pay Raises	Annualization of FY 2019 FTE	FY 2020 Pay Raises	One more Compensable Day (262 days)	WCF Increase/ Decrease	Inflation/ Deflation		
PERSONNEL RESOURCES (FTE)											
Direct FTE	11	12	12	-	-	-	-	-	-	(5)	7
FINANCIAL RESOURCES											
ADMINISTRATIVE EXPENSES											
Salaries and Benefits	1,800	1,800	1,826	9	-	-	4	-	-	(766)	1,073
Travel	150	150	150	-	-	-	-	-	-	-	150
Transportation	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-
Other Services:	7,758	7,758	7,732	-	-	-	-	-	-	(4,273)	3,459
-WCF	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	9,708	9,708	9,708	9	-	-	4	-	-	(5,039)	4,682
PROGRAMS											
Northeast Corridor Grants to Amtrak	646,750	646,750	646,750	-	-	-	-	-	-	(322,911)	323,839
National Network Grants to Amtrak	1,285,142	1,285,142	1,285,142	-	-	-	-	-	-	(677,197)	607,945
Programs Subtotal	1,931,892	1,931,892	1,931,892	-	-	-	-	-	-	(1,000,108)	931,784
TOTAL	1,941,600	1,941,600	1,941,600	9	-	-	4	-	-	(1,005,147)	936,466

EXHIBIT II-6
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
Federal Railroad Administration
Appropriations, Obligation Limitations, and Exempt Obligations
(S000)

Consolidated Rail Infrastructure and Safety Improvements	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	Baseline Changes					FY 2020 Baseline Estimate	Program Increases/Decreases	FY 2020 Request
				Annualization of FY 2019 Pay Raises	Annualization of FY 2019 FTE	FY 2020 Pay Raises	One more Compensable Day (262 days)	GSA Rent			
PERSONNEL RESOURCES (FTE)											
Direct FTE	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES											
ADMINISTRATIVE EXPENSES											
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-
Advisory and assistance services	5,925	5,925	2,550	-	-	-	-	-	2,550	750	3,300
Other Services:	-	-	-	-	-	-	-	-	-	-	-
-WCF	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	5,925	5,925	2,550	-	-	-	-	-	2,550	750	3,300
PROGRAMS											
Consolidated Rail Infrastructure and Safety Improvements Grants	586,622	586,622	252,450	-	-	-	-	-	252,450	74,250	326,700
Programs Subtotal	586,622	586,622	252,450	-	-	-	-	-	252,450	74,250	326,700
TOTAL	592,547	592,547	255,000	-	-	-	-	-	255,000	75,000	330,000

EXHIBIT II-6
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
Federal Railroad Administration
Appropriations, Obligation Limitations, and Exempt Obligations
(S000)

Restoration and Enhancement Grants	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	Baseline Changes					FY 2020 Baseline Estimate	Program Increases/ Decreases	FY 2020 Request
				Annualization of FY 2019 Pay Raises	Annualization of FY 2019 FTE	FY 2020 Pay Raises	One more Compensable Day (262 days)	GSA Rent	WCF Increase/ Decrease	Inflation/ Deflation	
PERSONNEL RESOURCES (FTE)											
Direct FTE	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES											
ADMINISTRATIVE EXPENSES											
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-
Advisory and assistance services	200	200	50	-	-	-	-	-	50	5,450	5,500
Other Services:	-	-	-	-	-	-	-	-	-	-	-
-WCF	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	200	200	50	-	-	-	-	-	50	5,450	5,500
PROGRAMS											
Restoration and Enhancement Grants	19,800	19,800	4,950	-	-	-	-	-	4,950	539,550	544,500
Programs Subtotal	19,800	19,800	4,950	-	-	-	-	-	4,950	539,550	544,500
TOTAL	20,000	20,000	5,000	-	-	-	-	-	5,000	545,000	550,000

EXHIBIT II-6
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
Federal Railroad Administration
Appropriations, Obligation Limitations, and Exempt Obligations
(\$000)

Railroad Rehabilitation and Improvement Financing Program	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	Baseline Changes					FY 2020 Baseline Estimate	Program Increases/ Decreases	FY 2020 Request
				Annualization of FY 2019 Pay Raises	Annualization of FY 2019 FTE Raises	One more Compensable Day (262 days)	GSA Rent	WCF Increase/ Decrease			
PERSONNEL RESOURCES (FTE)											
Direct FTE	-	-	-	-	-	-	-	-	-	-	-
FINANCIAL RESOURCES											
ADMINISTRATIVE EXPENSES											
Salaries and Benefits	-	-	-	-	-	-	-	-	-	-	-
Travel	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-
GSA Rent	-	-	-	-	-	-	-	-	-	-	-
Communications, & Utilities	-	-	-	-	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	-	-	-	-	-
Advisory and assistance services	-	-	-	-	-	-	-	-	-	-	-
Other Services:	-	-	-	-	-	-	-	-	-	-	-
-WCF	-	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-
Admin Subtotal	-	-	-	-	-	-	-	-	-	-	-
PROGRAMS											
Railroad Rehabilitation and Improvement Financing Program	25,000	25,000	17,000	-	-	-	-	-	17,000	(17,000)	-
Programs Subtotal	25,000	25,000	17,000	-	-	-	-	-	17,000	(17,000)	-
TOTAL	25,000	25,000	17,000	-	-	-	-	-	17,000	(17,000)	-

EXHIBIT II-7
WORKING CAPITAL FUND
FEDERAL RAILROAD ADMINISTRATION
(\$000)

	FY 2018	FY 2019	FY 2019	FY 2020	
	ACTUAL	ANNUALIZED	ENACTED	REQUEST	CHANGE
DIRECT:					
Safety and Operations	9,841	10,498	10,498	20,474	9,976
SUBTOTAL	9,841	10,498	10,498	20,474	9,976
TOTAL	9,841	10,498	10,498	20,474	9,976

EXHIBIT II-8
FEDERAL RAILROAD ADMINISTRATION
PERSONNEL RESOURCE -- SUMMARY
TOTAL FULL-TIME EQUIVALENTS

	FY 2018	FY 2019	FY 2019	FY 2020
	ACTUAL	ANNUALIZED	ENACTED	REQUEST
<u>DIRECT FUNDED BY APPROPRIATION</u>				
Safety and Operations	891	920	920	904
Capital Assistance for High-Speed and Intercity Rail	1	0	0	0
National Network Grants to Amtrak	11	12	12	7
 SUBTOTAL, DIRECT FUNDED	 903	 932	 932	 911
 TOTAL FTEs	 <u>903</u>	 <u>932</u>	 <u>932</u>	 <u>911</u>

**EXHIBIT II-9
FEDERAL RAILROAD ADMINISTRATION
RESOURCE SUMMARY – STAFFING
FULL-TIME PERMANENT POSITIONS**

	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST
<u>DIRECT FUNDED BY APPROPRIATION</u>				
Safety and Operations	892	920	920	904
Capital Assistance for High-Speed and Intercity Rail	0	0	0	0
National Network Grants to Amtrak	11	12	12	7
SUBTOTAL, DIRECT FUNDED	903	932	932	911
TOTAL POSITIONS	903	932	932	911

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION**

**SAFETY AND OPERATIONS
APPROPRIATIONS LANGUAGE**

SAFETY AND OPERATIONS

For necessary expenses of the Federal Railroad Administration, not otherwise provided for, ~~\$202,304,000~~ \$213,134,000, of which \$15,900,000 derived from the general fund shall remain available until expended: Provided, That railroad safety fees collected in fiscal year ~~2019~~ 2020 as provided in section 152 of this Act, of which \$25,000,000 shall remain available until expended for railroad safety activities, shall be credited as offsetting collections to this account: Provided further, That the one-year portion of the sum herein appropriated from the general fund shall be reduced on a dollar-for-dollar basis as such offsetting collections are received during fiscal year ~~2019~~ 2020, so as to result in a final appropriation from the general fund estimated at ~~\$152,304,000~~ \$163,134,000.

Explanation: The President's Budget proposes to impose a user fee that would reimburse the Federal Railroad Administration for the operational costs of rail safety inspectors and activities. Like other regulated industries, railroads benefit directly and indirectly from the government's efforts to ensure high safety standards, and it is therefore appropriate for railroads to bear some of the cost. FRA will begin collecting an estimated \$50 million in 2020.

EXHIBIT III-1
SAFETY AND OPERATIONS
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
(\$000)

Item	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST	CHANGE FY 2019- 2020
Safety and Operations	221,698	221,698	221,698	213,134	(8,564)
Rail Safety User Fee	-	-	-	(50,000)	(50,000)
TOTAL	221,698	221,698	221,698	163,134	(58,564)
FTEs					
Direct Funded	891	920	920	904	(16)

Program and Performance Statement

Funds requested in the Safety and Operations account support the Federal Railroad Administration's (FRA) personnel and administrative expenses, the cost of rail safety inspectors, and other program activities including contracts. Resources are also provided to fund information management, technology, safety education, and outreach.

EXHIBIT III-1a
SAFETY AND OPERATIONS
SUMMARY ANALYSIS OF CHANGE FROM FY 2019 TO FY 2020
Appropriations, Obligations, Limitations, and Exempt Obligations

Item	\$000	FTE
FY 2019 ENACTED	221,698	920
	Change from FY 2019 to FY 2020	
Administrative Adjustments to Base:	1,116	
<i>Annualization of FY 2019 FTE</i>	-	-
<i>Annualization of FY 2019 Pay Raise</i>	618	-
<i>Two Less Compensable Days</i>	498	-
<i>FY 2020 Pay Raise</i>	-	-
GSA Rent	321	-
Working Capital Fund	361	(16)
Non-Pay Inflation	-	-
SUBTOTAL, ADJUSTMENTS TO BASE	1,798	(16)
PROGRAM REDUCTIONS		
Automated Track Inspection Program	(7,000)	-
Confidential Close Call Reporting System	(400)	-
RSIS/Data Management	(1,100)	-
Safe Transportation of Energy Products	(2,000)	-
Washington Union Station	(25)	-
Security, Other Security Grants	(15)	-
Other Services	(3,859)	-
SUBTOTAL, PROGRAM REDUCTIONS	(14,400)	(16)
NEW OR EXPANDED PROGRAMS		
PTC Support	3,000	-
Working Capital Fund	553	-
Drug and Alcohol Program	241	-
RSAC	94	-
Trespass Prevention	150	-
SUBTOTAL, NEW OR EXPANDED PROGRAMS	4,038	(16)
USER FEE	(50,000)	-
FY 2020 REQUEST	163,134	904

DETAILED JUSTIFICATION FOR RAILROAD SAFETY AND OPERATIONS

FY 2020 – Safety and Operations – Budget Request

\$000

Account	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request	Difference from FY 2019
Safety and Operations	221,698	221,698	221,698	163,134	(58,564)

What is this program and what does this funding level support?

The appropriation for the Safety and Operations (S&O) account funds FRA’s programs to improve railroad safety and execute financial assistance. It also funds FRA’s organizational infrastructure—payroll, rent, telecommunications, information technology, and contract support—that enables the safety and development programs to achieve their goals.

FRA oversees, regulates, and enforces the safety of railroad operations nationwide. In addition, FRA supports the development of intercity passenger rail and freight rail services, as well as new technologies and investments to improve railroad safety and efficiency. S&O funding is the foundation for FRA to carrying out its mission of enabling the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future.

FRA’s programs align closely with the Department’s priorities for FY 2020:

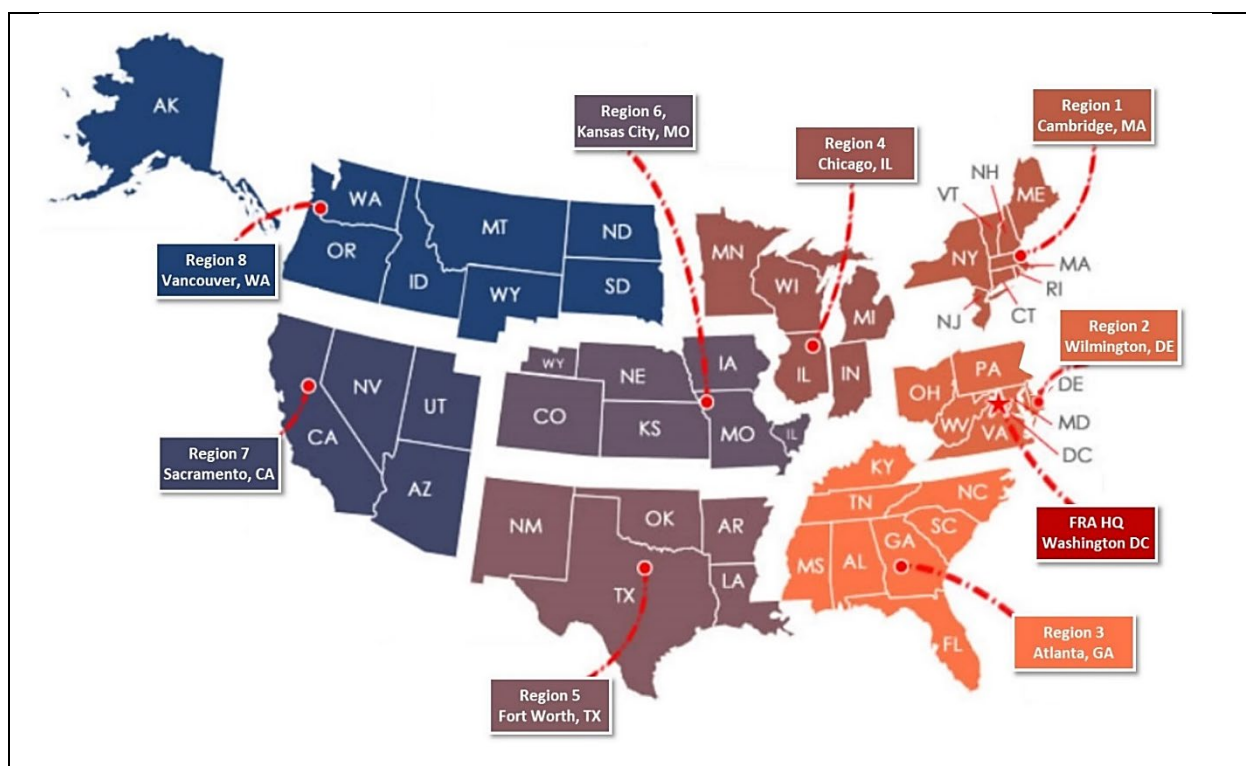
- **Safety:** FRA’s focus is overseeing the safety of the nation’s railroad system. FRA applies its resources to identify and address the rail industry’s most pressing safety issues, including improving passenger railroad safety and providing support and oversight to the implementation of positive train control; preventing trespassing on railroad property; increasing safety at highway-rail grade crossings; and reducing the hazards posed by transporting energy products, such as crude oil, ethanol, and liquefied natural gas, by rail.
- **Infrastructure:** FRA’s inspector workforce and other safety specialists monitor the safety of the nation’s railroad infrastructure, including track, bridges and tunnels, rolling stock, train control and communications systems, and grade crossings.
- **Innovation:** In collaboration with FRA’s Research and Development account, FRA’s S&O-funded programs are innovating constantly to implement new and transformative technologies that enhance safety, develop novel solutions to complex challenges, and better identify, collect, and analyze the information necessary to make data-driven decisions that advance FRA’s mission.
- **Accountability:** FRA’s S&O-funded personnel are working to address Administration goals to reduce regulatory burdens, effectively implement critical safety programs, and streamline the project development and delivery process.

FRA executes its regulatory and inspection responsibilities through a diverse staff of railroad safety experts, inspectors, specialists, and other professionals.

At FRA headquarters, the Office of Railroad Safety has 15 divisions of technical experts, who manage the mission critical programs that improve railroad safety. In addition, these experts provide technical guidance to field personnel, support development of minimum safety standards and regulations, and evaluate waiver petitions.

Most of FRA's safety personnel work at locations in eight regions across the nation where they directly interact with railroads and other stakeholders. FRA's field presence includes rail safety inspectors, highway-rail grade crossing safety and trespass prevention program managers, positive train control specialists, signal control specialist, passenger rail specialists, human performance specialists, alcohol and drug program experts, tank car quality assurance specialists, rail and infrastructure integrity experts, bridge safety specialists, safety and occupational health specialists, radioactive materials specialists, and railroad safety oversight managers.

FRA Safety Regions



The largest cadre of field staff are the 390 railroad safety inspectors who specialize in six safety disciplines. Below is the FY 2020 planned distribution of rail safety inspectors based on FRA's staffing allocation process.

FY 2020 Target Distribution of FRA Rail Safety Inspectors
By Safety Discipline and Geographic Region

Safety Discipline	FRA Region								Total
	1	2	3	4	5	6	7	8	
Motive Power and Equipment	7	13	12	14	12	10	7	8	83
Operating Practices	8	12	11	11	12	10	8	9	81
Track	9	11	12	9	13	9	8	10	81
Hazardous Materials	4	8	9	9	11	8	5	9	63
Signal and Train Control	7	9	9	7	6	7	7	6	58
Grade Crossing	3	3	3	3	3	3	3	3	24
Target Total	38	56	56	53	57	47	38	45	390

FRA's enforcement, oversight, and technical assistance contributed to FY 2018 being one of the safest years in recent record. Although total accidents and incidents increased 1.0 percent from FY 2017 to FY 2018, they decreased 9.8 percent since FY 2009. In addition, from FY 2009 to FY 2018, total derailments declined by 8.6 percent, railroad industry employee fatalities declined by 47 percent, and total highway-rail grade crossing incidents declined by 44.5 percent

The following paragraphs describe some of FRA's FY 2020 priority safety programs that provide significant safety benefits to the public.

Positive Train Control (PTC) Implementation

FY 2018 Actual: \$10.00 million

FY 2019 Enacted: \$10.00 million

FY 2020 Request: \$13.00 million

PTC is life-saving technology that prevents certain railroad-related accidents and near accidents. It is the single most important railroad safety technology development in more than a century. With limited exceptions and exclusions, the *Rail Safety Improvement Act of 2008* required certain railroads to install and implement PTC by December 31, 2015. The *Positive Train Control Enforcement and Implementation Act of 2015* extended that date, giving railroads until December 31, 2018, to implement PTC, and enabling railroads to request from FRA an additional 2 years to December 31, 2020, if certain criteria are met. PTC must be used on Class I railroad main lines with over 5 million gross tons of traffic annually that transport any quantity of poisonous- or toxic-inhalation hazard commodity and on any railroad's main lines over which regularly scheduled intercity passenger or commuter rail services are operated. To date, 42 railroads are subject to the mandate.

FRA's role is to monitor the railroad's timely implementation, safe operation, and proper maintenance of PTC systems, and enforce compliance with all applicable statutes and regulations (including issuing penalties). This work requires significant resources to review and approve railroad implementation plans, witness and approve required testing, provide ongoing technical assistance, and certify the final implementation of such systems through the review and approval of safety plans. To conduct these functions, FRA relies on contractor support, including firms with specialized knowledge in advanced railroad signal technology. Since railroads have until December 31, 2020, to have certified PTC systems in place, FRA expects FY 2020 to include an increase in workload as the remaining railroads push to complete testing and submit safety plans by the summer of 2020.

Trespass Prevention

FY 2018 Actual: \$0.00 million

FY 2019 Enacted: \$0.50 million

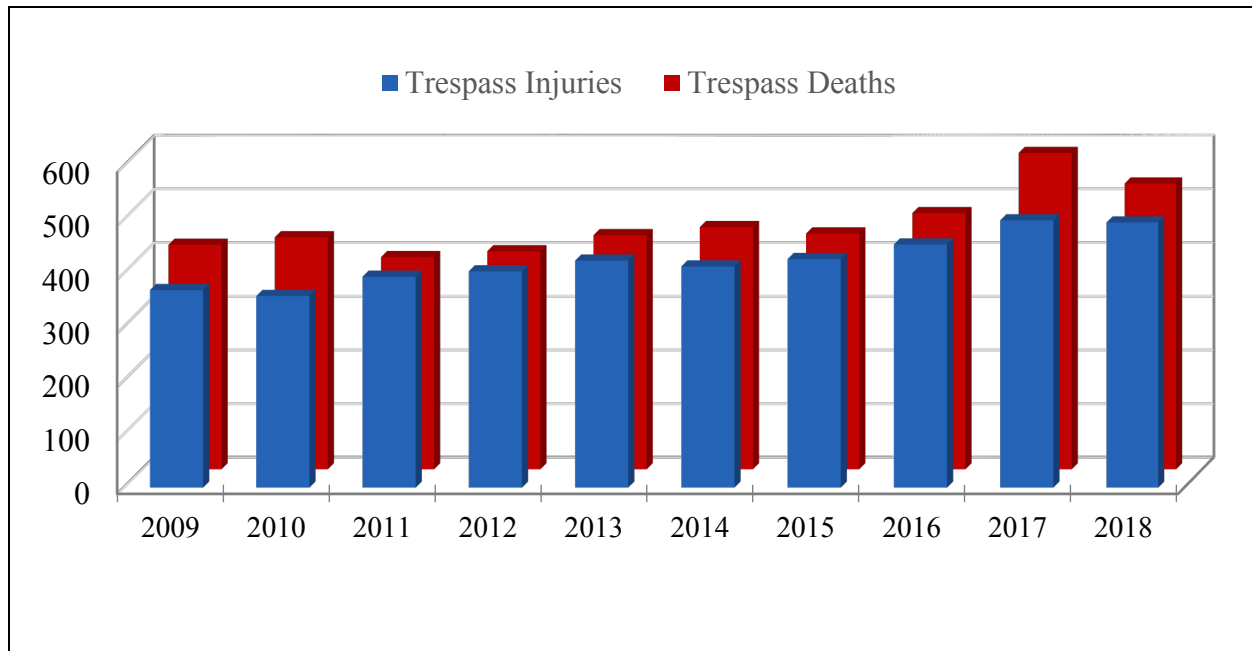
FY 2020 Request: \$0.65 million

Trespass on the Nation's railroad rights-of-way is the leading cause of rail-related fatalities, accounting for 63 percent of U.S. rail-related deaths in FY 2018. An average of 450 trespassers died each year between FY 2009 and FY 2018 (Figure 1). Notably, the number of trespasser fatalities increased 18 percent from FY 2014 to FY 2018. Since 1997, more people have been killed each year while trespassing than in motor vehicle collisions with trains at highway-rail grade crossings. Preventing trespassing will not only reduce the number of fatalities, but it will also improve the safety and efficiency of the rail transportation network. FRA staff works closely with local communities and railroads on trespass prevention efforts by providing technical assistance and educating communities about risks.

While progress has been made to improve overall rail safety, trespass- and suicide-related fatalities have increased by 17 percent since 2012, from 803 combined fatalities in 2012 to 939 combined fatalities in 2018.

FRA is completing a study of the causal factors of trespass incidents and this information will inform a mitigation strategy. Two elements of the mitigation strategy are development and implementation of a trespass risk model, and hosting trespass summits in areas with a high incident of trespass incidents. Each is described below.

Figure 1: Trespass Injuries and Fatalities, Fiscal Years 2009 to 2018



Source: FRA data

FRA requests \$500,000 for the development of a trespass risk model.

FRA's trespass incident causal factors study includes a review of all pertinent research, data analysis, and survey of the 10 counties with the highest number of trespass fatalities due to railroad operations. Because of the survey, FRA learned that each community has several factors that may lead to the high number of trespass casualties. These factors include population, lack of deterrents (e.g. fence), competing priorities (railroad trespass fatalities account for less than 2 percent of fatalities by other means such as homicide, highway deaths, and drug overdose), limited local enforcement and prosecution of violations, poor community planning, limited understanding of the laws related to and risk of trespassing. Using the new data collected during community surveys along with accident data, FRA will develop and refine a model to calculate risk to identify current and future risk of trespassing in communities across the country. This approach has proven successful. A railroad has developed a risk model that informs their decisions for mitigation strategies. In fact, based on the model it strategically installed fencing and as a result realized an 85 percent decrease in the number of trespass incidents in those areas.

FRA requests \$150,000 for local trespass prevention summits

FRA is requesting \$150,000 to conduct ten local, FRA-led trespass prevention summits to bring together local leaders from government, schools, businesses and railroads to address specific trespass problem areas and to seek cooperative efforts to reduce trespassing in these areas. The ten summits will be held in the ten counties with the highest number of trespass casualties reported to FRA. Data analysis and site-specific locations will be identified prior to each workshop so that discussions will be targeted to the locations most in need of attention.

Highway-Rail Grade Crossing Safety

FY 2018 Actual: \$1.00 million

FY 2019 Enacted: \$1.00 million

FY 2020 Request: \$1.00 million

As of February 2018, there were 130,569 public highway-rail grade crossings in the United States. Each crossing presents potential for a collision between a train and highway vehicle. A motorist is 20 times more likely to die from a collision with a train than any other vehicle it might encounter. Collisions at highway-rail grade crossing intersections are the second leading cause of rail-related fatalities, accounting for approximately 30 percent of all such fatalities. Highway-rail grade crossing incidents are the second leading cause of rail-related deaths and the top cause of all railroad accidents. FRA expects the risk of highway-rail grade crossing incidents to grow as both train and highway traffic increase during the next decade.

FRA provides annual funding to reduce the number of highway-rail grade crossing collisions and trespassing incidents. The program utilizes these funds to conduct public outreach and educational programs and increase law enforcement partnerships. FRA also provides funding to enable active and retired law enforcement officers to raise awareness on the importance of enforcing traffic laws at highway-rail grade crossings and trespassing laws on railroad rights-of-way.

FRA provides annual funding to Operation Lifesaver, Inc., a national, non-profit organization that is dedicated to reducing the number of highway-rail grade crossing collisions and trespassing incidents. Operation Lifesaver, Inc. utilizes these funds to conduct public outreach and educational programs, and increase law enforcement partnerships. FRA also provides funding to enable active or retired law enforcement officers to raise awareness on the importance of enforcing traffic laws at highway-rail grade crossings and trespassing laws on railroad rights-of-way. FRA also plans to conduct a Highway-Rail Crossing Research Needs Workshop to not only receive input to help identify topics for future crossing safety research but to also provide a platform for the sharing of current crossing safety initiatives. The workshop will be attended by railroads, railroad unions, representatives from state and local governments, academia and other parties interested in reducing collisions and casualties at highway-rail grade crossings.

Automated Track Inspection Program (ATIP)

FY 2018 Actual: \$16.50 million

FY 2019 Enacted: \$16.50 million

FY 2020 Request: \$9.50 million

Defective track conditions result in 30 percent of all FRA reportable accidents. Identifying these defects or other precursor conditions is a focus area of FRA's oversight program and ATIP is a critical tool for FRA's safety oversight program. ATIP utilizes several vehicles equipped with track geometry instruments to automatically measure track alignment and cross level. ATIP vehicles are strategically assigned to the highest risk routes, including those over which passengers and hazardous materials are transported. The vision for the program is to provide timely and reliable data to focus FRA safety oversight and enforcement

activities, to audit railroads' track safety compliance, and to determine the state-of-repair of the Nation's railroads.

Through accurate, comprehensive, and objective automated inspections, ATIP supplements the work of FRA's inspectors to assure railroads are compliant with the federal Track Safety Standards. ATIP provides information for risk-based planning to ensure inspection resources are used effectively. It also generates comprehensive infrastructure diagnostics to notify railroads of major safety risks and supports research to improve track safety.

Funding requested in FY 2020 will enable FRA to build off the recent fleet refresh and deploy refurbished geometry cars and new track geometry systems to expand and improve the reliability of the data collected. FY 2020 will also represent the third full year of using a second ATIP vendor, which has created a dynamic competitive environment to encourage introduction of new inspection technology, create competition to lower future costs, and position ATIP for future program improvements with enhanced capabilities. FRA will continue to use and promote the use of advanced rail inspection technology (such as autonomous air and surface vehicles) to improve the effectiveness and efficiency of rail inspection practices.

With FY 2017 (\$15 million) and FY 2018 (\$16.50 million) funding, FRA surveyed more than 183,000 track miles and found 7,486 deviations from Federal track safety standards. Additionally, FRA added new inspection technology, two battery and solar powered autonomous vehicles and a hi-rail vehicle that will provide more flexibility and survey capability.

Data Management/Railroad Safety Information System (RSIS)

FY 2018 Actual: \$4.80 million

FY 2019 Enacted: \$4.80 million

FY 2020 Request: \$3.70 million

The Railroad Safety Information System (RSIS) is FRA's principal repository of railroad safety data that houses FRA's principal monitoring system for railroad safety. It is a set of data management systems that collect, analyze and process information on railroad accidents and incidents; safety inspections and violations; highway-rail crossing attributes, and other rail safety related information. RSIS data is accessible via the internet and is used extensively in FRA in safety trend analysis and performance measurement, including identifying the most common cause of rail accidents and incidents. The information gathered is also used by FRA to develop strategies for rulemaking, focused enforcement activities, education, outreach, and resource allocation. The railroad accident and incident information is also publicly available to support states, railroads, and other stakeholders in conducting their safety analyses and planning.

To carry out its mission, FRA collects and analyzes, and processes significant amounts of safety-related information. This information allows FRA not only enforce current safety regulations that have data collection requirements, such as the National highway-rail crossing inventory and accident/incident/injury reporting, but also supports implementation of

proposed rulemakings that have data collection elements, such as risk reduction, system safety programs and state action plan.

Over the last several years, FRA has increased its focus on safety data as a strategic resource and asset, but the needs for timely and rigorous quantitative analysis have outpaced RSIS' underlying architecture and technology. In FY 2019, FRA plans to enhance the data narrative on the safety data site by utilizing DOT's shared services to visualize and communicate useful insights for FRA internal and external stakeholders.

For FY 2020, the \$3.70 million requested will continue funding the RSIS annual operations and maintenance and near term, new data collection and integration projects. The funding will continue FRA's effort to build its analytics capabilities and data sharing programs. FRA will continue to partner with academia and industry to develop its data strategy and governance approach and design and implement data sharing programs. FRA will also continue to develop analytics and risk models to support and evaluate railroad safety programs and to draw useful insights from the internal and external data that traditional approach to business intelligence are unlikely to recover.

Audit Management Program

FY 2018 Actual: \$0.00 million

FY 2019 Enacted: \$0.00 million

FY 2020 Request: \$0.50 million

FRA continues to develop an audit management program to enhance efficiency and accountability in addressing railroad safety. FRA has issued numerous statutorily-required regulations that require railroads to create and implement performance-based plans; in each case, FRA must conduct audits to ensure the railroads are complying with their own plans, and to ensure that such compliance leads to safety improvements. Because these regulations address diverse aspects of railroad safety, enforcement and compliance responsibilities are distributed widely across FRA. FRA is developing the audit management program to ensure that all of FRA's audit activities are conducted in accordance with generally accepted government auditing standards, and to provide program tracking and evaluation to ensure continuous audit process improvement.

The requested amount will fund two FTEs and IT development to coordinate, support, and evaluate the audit management program. The audit management program will establish standard audit methods, ensuring that FRA's inspectors oversee consistently the compliance of railroads with their own safety plans, and that audit results across the nation are comparable. This program will use mathematical risk modeling to guide FRA leadership as they plan the frequency and focus of all audit activities, and will establish minimum standards for audit reporting and documentation for certain key programs. The audit management program will also include a central electronic repository of the latest version of each submitted plan, as well as other important safety documents, which ensures efficient information sharing across FRA. The program's tracking systems and data visualizations will provide transparency and accountability for all auditing activities across the FRA.

Transportation Technology Center (TTC)

FY 2018 Actual: \$0.50 million

FY 2019 Enacted: \$0.50 million

FY 2020 Request: \$0.50 million

Since its establishment in the 1970s, TTC has been a vital resource in FRA's and the railroad community's pursuit of safer, more reliable, and more efficient rail services. Through FRA's unique partnership with the Association of American Railroads' subsidiary, Transportation Technology Center, Inc., TTC has matured, evolved, and prospered. The partnership has a robust multi-year research and development program in place.

Now into its fifth decade, TTC consists of 15 buildings, almost 50 structures, multiple laboratories, and hundreds of test devices and equipment on more than 50 square miles in Colorado. Because of the available resources, FRA decided to station its training program at TTC and in 2015 began offering technical training at TTC for its inspectors, safety specialists, state employees in FRA's State Participation Program, and other government employees, including the Department of Defense, with an interest in rail safety. Co-locating training and research and development provides inspectors and safety specialists opportunities for hands on learning with rail technology, which is unavailable in traditional classroom settings. With rapid increases in rail technology, such as machine vision, surface and airborne autonomous inspection vehicles, and data analysis tools, there are significant synergistic benefits for collaboration between research and development and training. Continuing improvement and development of FRA's training staff and training facilities at TTC are critical for preparing FRA for the future of safety oversight of the rail industry.

Currently, training at TTC is limited and focuses on FRA's 6 core disciplines: hazardous materials, mechanical, signal and train control, track, operating practices, and grade crossing safety. FRA proposes to expand both the capacity and capabilities of the facility to accommodate other specialized training areas such as PTC, autonomous vehicles, safety data analysis, tank car quality assurance, drug and alcohol, grade crossing, and accident investigation. In summary, FRA is requesting \$500,000 to fund the continued development of the training program and to improve the safety and the capability of the training facilities at TTC. These funds will be used as shown in the table to the right.

Technical Training at the Transportation Technology Center	
Item	FY 2020 Request
Training Devices	\$250,000
eLearning Improvements and Audiovisual Capabilities	\$150,000
Office and Classroom Improvements	\$100,000
Total	\$500,000

Confidential Close Call Reporting System (C³RS)

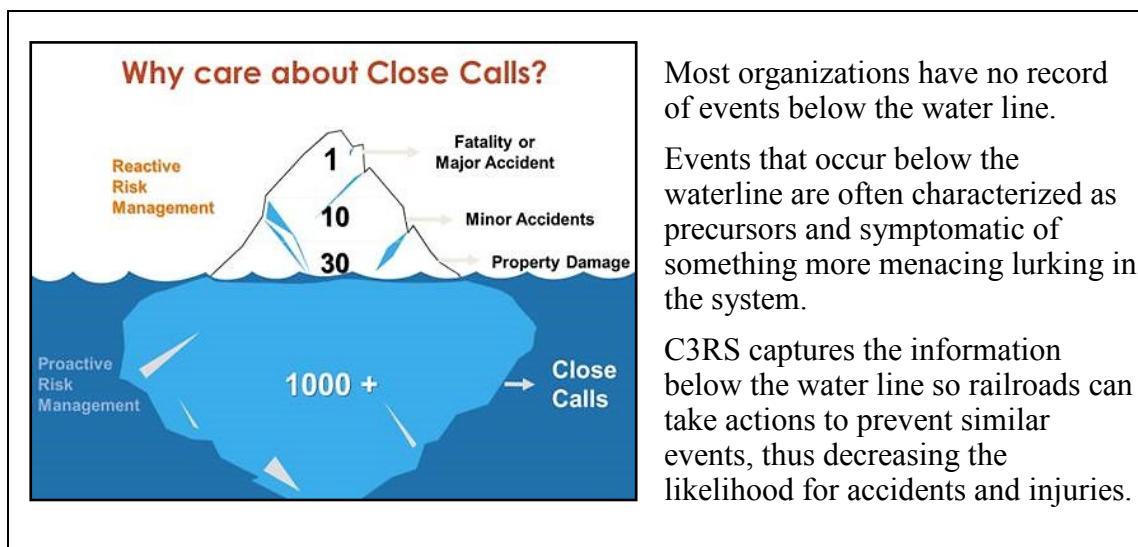
FY 2018 Actual: \$3.50 million

FY 2019 Enacted: \$3.00 million

FY 2020 Request: \$2.60 million

This FRA-sponsored, voluntary program enables participating railroads' management and labor to identify, analyze, and mitigate safety issues before accidents occur and improve their safety cultures. Research on many types of organizations, including aviation and healthcare, demonstrates that improving safety cultures can lead to marked improvements in safety performance, such as reducing accidents, injuries, and fatalities. Results from C³RS pilot sites indicate significant improvements, including a 41 percent reduction in human factor incidents and 53 percent reduction in human factor incident related costs at one site and a 27 percent reduction in reportable incidents and 18 percent reduction in injuries at another. C³RS enables railroad employees to report close calls confidentially. Confidentiality is a critical aspect of the program, because it alleviates employees' fear of retribution. It also provides the same confidentiality to the employer. A FRA-contracted third party compiles the reports and de-identifies them for participating railroads' peer review teams. FRA personnel actively work with the eight participating railroads (covering more than 21,000 employees) to analyze risks, identify hazards, and implement customized corrective actions to eliminate those risks. The figure below illustrates the value of C³RS information.

Figure 2. Graphical Representation of Safety Risk Management



C³RS provides the framework for learning from unintended mistakes in stances where no harm or injury has occurred to persons or property. It also supports a mechanism for information sharing (vis-à-vis the aviation industry), and best practices across the railroad industry. C³RS supports data driven risk based decision making. C³RS peer review teams (management, labor, and FRA) collaborate to focus on the problem, not the person, by directing efforts at the root cause(s).

In accordance with Congress' direction to "explore a model that will allow the public sector to pay into the (C³RS) program", FRA submitted its report to Congress in December of 2018 highlighting some viable funding options to help offset the costs of proactive railroad safety programs like C³RS. At the same time the program is growing. The effective date of the System Safety Rule is December of 2018. There are 41 railroads that will be required to develop and implement a System Safety Program (SSP) in accordance with the rule. The railroads will then have a prescribed amount of time to develop a SSP. Participation in FRA-sponsored C³RS will satisfy some elements of the SSP requirements. Currently, there are eight participating railroads. In fact, in 2018 FRA expects two, possibly three additional railroads to join the program. For FY 2019, FRA anticipates that current funding levels will allow the third-party contractor to continue a high percentage of full form processing (raw close call reports).

Washington Union Station

FY 2018 Actual: \$1.03 million

FY 2019 Enacted: \$1.03 million

FY 2020 Request: \$1.00 million

As the Congressionally appointed owner of Washington Union Station, FRA is responsible for carrying out the duties of the Authority Having Jurisdiction. As such, FRA must ensure compliance with applicable building, fire, and life safety codes and requirements. FRA contracts to obtain the specialized knowledge to perform these duties, including inspections of the station, review of drawings and plans for new construction initiatives, and inspection of all repair work to ensure compliance with applicable building, fire, and life safety codes.

What benefits will be provided to the American public through this request and why is the program necessary?

America's passenger railroads transported 679 million passengers across 114 million passenger train miles in 2018, while our freight railroads completed 1.7 billion revenue ton miles. Protecting the safety of the American public and minimizing risks for both passengers and railroad crews is a top FRA priority. FRA's safety programs provide tangible safety and operational benefits to the American public and railroad industry by supporting the nation's economic productivity and ensuring the safety of its passenger and freight mobility needs.

The FY 2020 request continues to target FRA's resources at today's most pressing rail safety issues.

Supporting the railroad's implementation of the most important rail safety technology in more than 100 years to improve system performance nationally. Positive Train Control (PTC) systems are life-saving technology that stops certain railroad-related accidents and near accidents, and FRA has conditionally certified 13 PTC systems to date.

Protecting passengers and railroad crews and minimizing the cost of accidents for the more than 500 million annual railroad passenger trips. The rate of rail-related accidents and incidents has fallen by 85% since 1980. Moreover, the number of employee on-duty fatalities in

FY 2018 was about half the number in FY 2009. Nevertheless, fatal Amtrak accidents in 2015 and 2017 underscore that the railroad industry and FRA have hard work ahead.

Ensuring railroads operate safely to support economic productivity and meet passenger and freight mobility needs. Although total accidents and incidents increased 1.0 percent from FY 2017 to FY 2018, they decreased 9.8 percent since FY 2009. In addition, from FY 2009 to FY 2018, total derailments declined by 8.6 percent, railroad industry employee fatalities declined by 47 percent, and total highway-rail grade crossing incidents declined by 4.5 percent. FRA will remain diligent and examine new approaches to advance continuous safety improvement and make rail transportation as safe as possible.

Preventing trespassing on railroad property and increasing safety at highway-rail grade crossings. Trespass on the Nation's railroad rights-of-way is the leading cause of rail-related fatalities, accounting for 63 percent of U.S. rail-related deaths in FY 2018. An average of 450 trespassers died each year between FY 2009 and FY 2018. The 130,569 public highway-rail grade crossings in the United States each present the potential for a collision between a train and highway vehicle. A motorist is 20 times more likely to die from a collision with a train than any other vehicle it might encounter. Highway-rail grade crossing incidents are the second leading cause of rail-related deaths and the top cause of all railroad accidents. Preventing trespassing and increasing grade crossing safety will not only reduce the number of fatalities, but it will also improve the safety and efficiency of the rail transportation network.

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
SAFETY AND OPERATIONS (69-0700)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account
Number: 69-0700-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
Obligations by program activity:				
0001	Salaries and expenses	215,175	219,000	169,000
0002	Activity from RRIF Collections	2,790	-	-
0006	Alaska Railroad Liabilities	857	1,000	1,000
0799	Total direct obligations	218,822	220,000	170,000
0801	Reimbursable services	213	1,000	1,000
0802	Railroad Safety User Fee	-	-	50,000
0899	Total reimbursable obligations	213	1,000	51,000
0900	Total new obligations	219,035	221,000	221,000
Budgetary Resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	19,484	26,000	28,000
1021	Recoveries of prior year unpaid obligations	1,090	-	-
1050	Unobligated balance (total)	20,574	26,000	28,000
Budget authority:				
Appropriations, discretionary:				
1100	Appropriation	221,698	222,000	163,000
1131	Unobligated balance of appropriations permanently reduced	-	-	-
1160	Appropriation, disc (total)	221,698	222,000	163,000
Spending authority from offsetting collections, discretionary:				
1700 01	Reimbursable Services	3,086	1,000	1,000
1700 02	Railroad Safety User Fee	-	-	50,000
1750	Spending auth from offsetting collections, disc (total)	3,086	1,000	51,000
1900	Budget authority (total)	224,784	223,000	214,000
1930	Total budgetary resources available	245,358	249,000	242,000

Account
Number: 69-0700-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Memorandum (non-add) entries:			
1940	Unobligated balance expiring	(670)	-	-
1941	Unexpired unobligated balance, end of year	25,652	28,000	21,000
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	72,040	95,000	82,000
3001	Adjustments to unpaid obligations, brought forward, Oct 1	-	-	-
3010	Obligations incurred, unexpired accounts	219,036	221,000	221,000
3011	Obligations incurred, expired accounts	2,539	-	-
3020	Outlays (gross)	(206,209)	(234,000)	(230,000)
3031	Unpaid obligations transferred from other accts [70-0413]	10,000	-	-
3040	Recoveries of prior year unpaid obligations, unexpired	(1,090)	-	-
3041	Recoveries of prior year unpaid obligations, expired	(1,547)	-	-
3050	Unpaid obligations, end of year (gross)	94,768	82,000	73,000
3060	Uncollected pymts, Brought Forward	-	-	-
3071	Change Uncollected pymts	-	-	-
3100	Obligated balance, start of year	72,040	95,000	82,000
3200	Obligated balance, end of year	94,768	82,000	73,000
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	224,784	223,000	214,000
	Outlays, gross:			
4010	Outlays from new discretionary authority	166,953	194,000	193,000
4011	Outlays from discretionary balances	39,256	40,000	37,000
4020	Outlays, gross (total)	206,209	234,000	230,000
	Offsets against gross budget authority and outlays:			
	Offsetting collections (collected) from:			
4030	Federal sources	(213)	(1,000)	(1,000)
4033	Non-Federal sources	(3,823)	-	(50,000)
4040	Offsets against gross budget authority and outlays, disc (total)	(4,036)	(1,000)	(51,000)

Account
Number: 69-0700-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Additional offsets against gross budget authority only:			
4052	Offsetting collections credited to expired accounts	950	-	-
4070	Budget authority, net (discretionary)	221,698	222,000	163,000
4080	Outlays, net (discretionary)	202,173	233,000	179,000
4180	Budget authority, net (total)	221,698	222,000	163,000
4190	Outlays, net (total)	202,173	233,000	179,000

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION**

**RAILROAD RESEARCH AND DEVELOPMENT
APPROPRIATIONS LANGUAGE**

RAILROAD RESEARCH AND DEVELOPMENT

For necessary expenses for railroad research and development, ~~\$19,550,000~~ \$19,000,000, to remain available until expended.

EXHIBIT III-1
RAILROAD RESEARCH AND DEVELOPMENT
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
(\$000)

	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST	CHANGE FY 2019- 2020
Track	11,279	11,279	11,279	6,000	-5,279
Rolling Stock	10,322	10,322	10,322	5,210	-5,112
Train Control and Communication	8,086	8,086	8,086	4,400	-3,686
Human Factors	6,042	6,042	6,042	2,090	-3,952
Railroad Systems Issues	4,871	4,871	4,871	1,300	-3,571
TOTAL	40,600	40,600	40,600	19,000	-21,600
FTEs	-	-	-	-	-

Program and Performance Statement

FRA's Research and Development Program is focused on improving railroad safety. It provides scientific and engineering support for the agency's safety enforcement and regulatory rulemaking efforts. It also identifies and develops emerging technologies for the rail industry to adopt voluntarily. The outcomes of the research and development are reduced railroad accidents and incidents. The program also supports intercity passenger rail development by providing technical assistance, equipment specifications, proposal evaluations, and Buy America compliance research. The focus of FRA's program is to fill the gaps in research not taken on by industry itself, and to partner with industry to leverage private R&D investment in a manner that ensures broader public safety benefits are achieved.

In addition to improving safety, the program contributes significantly towards activities to achieve and maintain a state of good repair and promote job creation and economic growth.

The program has the following areas of research:

- **Track Program** – Reducing derailments due to track related causes.
- **Rolling Stock Program** – Reducing derailments due to equipment failures, minimizing the consequences of derailments, and minimizing hazardous material releases.

- **Train Control and Communication Program** – Reducing train-to-train collisions and train collisions with objects on the line and at grade crossings.
- **Human Factors Program** – Reducing accidents caused by human error.
- **Railroad System Issues Program** – Prioritizing R&D projects on the basis of relevance to safety risk reduction and other DOT goals.

EXHIBIT III-1a

**RAILROAD RESEARCH AND DEVELOPMENT
SUMMARY ANALYSIS OF CHANGE FROM FY 2019 TO FY 2020
Appropriations, Obligations, Limitations, and Exempt Obligations
(\$000)**

	<u>\$000</u>	<u>FTE</u>
FY 2019 ENACTED	40,600	-
	<u>Change from FY 2019 to FY 2020</u>	
PROGRAM REDUCTIONS		
Track	(5,279)	-
Rolling Stock	(5,112)	-
Train Control and Communication	(3,686)	-
Human Factors	(3,952)	-
Railroad Systems Issues	(3,571)	-
SUBTOTAL, PROGRAM REDUCTIONS	(21,600)	-
 FY 2020 REQUEST	 19,000	 -

DETAILED JUSTIFICATION FOR RAILROAD RESEARCH AND DEVELOPMENT

FY 2020 - Railroad Research and Development - Budget Request \$000

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request	Difference from FY 2019
Track	11,279	11,279	11,279	6,000	(5,279)
Rolling Stock	10,322	10,322	10,322	5,210	(5,112)
Train Control and Communication	8,086	8,086	8,086	4,400	(3,686)
Human Factors	6,042	6,042	6,042	2,090	(3,952)
Railroad Systems Issues	4,871	4,871	4,871	1,300	(3,571)
TOTAL	40,600	40,600	40,600	19,000	(21,600)

What is this program and what does this funding level support?

The mission of FRA's Research and Development (R&D) program is to enable the safe, reliable, and efficient movement of people and goods by rail through basic and applied research and development of innovations and solutions. FRA's R&D program aligns closely with the Department's key priorities for FY 2020:

- **Safety:** FRA's R&D efforts provide the scientific and engineering basis for safety enforcement, regulatory reform, and non-regulatory safety initiatives.
- **Infrastructure (Revitalizing and Rebuilding our Critical Infrastructure):** FRA's R&D program advances safety and performance of three types of railroad infrastructure – track, rolling stock, and train control and communications systems – while mitigating human factors risks to optimize the use of infrastructure through safe and efficient operations.
- **Innovation (Preparing for the future by engaging with new technologies to ensure safety without hampering innovative emerging technologies):** Historically, FRA's R&D program has invented new technologies that transformed railroad safety inspection, passenger rail crashworthiness, railroad automation. The FY 2020 proposal continues investment in the next generation of transformative technologies.
- **Regulatory Reform (Enhancing Accountability through Regulatory Reform):** The findings and analyses resulting from FRA's R&D program give FRA's safety program the data necessary to embrace new technologies, and innovations that facilitate the shift from prescriptive regulations to performance based approaches in order to achieve equal or greater safety outcomes with more flexibility and at lower cost.

Work undertaken in the past 5 to 10 years contributes to today's safety performance. R&D projects typically follow one of three paths to implementation:

1. **Voluntary Industry Adoption:** R&D by FRA is necessary for conducting higher-risk and longer-term projects, which private industry would not otherwise undertake, to develop advanced technologies and practices. In many cases, industry voluntarily adopts these safety practices and technology without the need for regulation.
2. **Enforcement:** R&D by FRA creates new technology for efficient and effective oversight of railroad compliance with safety regulations.
3. **Regulation:** R&D by FRA is necessary to develop the scientific and engineering foundation for valid, data-driven and performance based regulations and deregulatory actions.
4. **Incorporation into Industry Standards and Recommended Practices:** The results of research performed by FRA are often used to develop (or modify/update) relevant industry standards. These include those created by the American Public Transportation Association (APTA) and the Association of American Railroads (AAR). Industry standards can leverage the output of FRA R&D without the need for additional regulations and achieve equivalent safety benefits.

FRA's R&D program is organized around the following five rail safety disciplines:

- **Track Program**
 - Track and structure inspection techniques, material and component reliability, design, and performance.
 - Track and train interaction, derailment mechanisms, and vehicle-track performance
 - Rail integrity related derailments and rail inspection systems.
 - Track safety standards for freight and passenger operations.
 - Safety assurance and performance measures development
 - R&D facilities at the Transportation Technology Center (TTC) managed through a public-private partnership.
- **Rolling Stock Program**
 - Rolling stock and components, onboard and wayside monitoring systems, material and design improvements.
 - Hazardous materials transportation risk reduction, tank car damage assessment, inspection, and integrity.
 - Safety and clean energy benefits of rolling stock technologies.
 - Train occupant protection, locomotive and passenger car safety and performance.
- **Train Control and Communication**
 - Development and testing of Positive Train Control (PTC) technologies and communication systems.
 - Interoperability standards.
 - Communication cybersecurity.
 - Automation and automated vehicle research.

- Drone-based technology research.
- Train control and grade crossing risk simulation and modeling.
- Grade crossing safety technologies and pilot studies, including intelligent rail systems, blocked crossings, and trespass prevention.
- Development and testing of train control and communication systems.
- Grade crossing safety technologies and pilot studies, including intelligent rail systems, blocked crossings, and trespass prevention.
- **Human Factors Program**
 - Research into fatigue distraction, attention and situational awareness, and ergonomics.
 - Usability studies of automation and new technology.
 - Trespass and suicide prevention.
 - Studies of motorist behavior at highway-rail grade crossings.
 - Short Line Safety Institute program development and support.
 - Stakeholder needs assessments and collaboration.
- **Railroad System Issues Program**
 - Safety risk analysis and performance-based regulations.
 - Railroad environmental issues and locomotive efficiency research
 - Railroad automation research.
 - Rail Safety IDEA (Innovations Deserving Exploratory Analysis) program grants with the Transportation Research Board.
 - Program evaluation, including the Transportation Research Board's independent review of FRA's R&D programs.
 - Railroad industry workforce research.
 - R&D related travel and contractor support.

The FY 2020 Request includes \$19 million for FRA's R&D program in FY 2020, \$550 thousand less than the FY 2019 Enacted Budget. Funding requested in FY 2020 is dedicated towards transformative, next-generation safety technology initiatives, with a focus on projects that advance the safe automation of railroad operating and inspection functions.

TRACK PROGRAM

The FY 2020 Request includes \$6 million for FRA's Track Research Program.

The number of accidents due to track-related causes decreased by 30 percent from 2009 to 2018. This reduction is due, in part, to the industry's adoption of technologies developed by FRA, such as:

- Gage restraint measurement system, a technology to assess the integrity of ties and fasteners.
- Vehicle-track interaction monitoring system developed for Amtrak and Class I freight railroads.

- Joint bar inspection system, an image-based technology that detects defects.
- Autonomous inspection technology used in Amtrak and freight assessment surveys.

Anticipated FY 2019 accomplishments for the Track Research Program include:

- Initiate the build of the first prototype Autonomous Internal Rail Flaw Inspection Device. This advanced technology will allow internal rail defect inspection under revenue service trains at speed. It is based on the non-contact passive rail techniques currently under development.
- Build a Change Detection Machine Vision System that automates data analysis of track inspections to determine safety related changes to the track structure and report this information to stakeholders with limited human intervention.
- Prototype an End of Train Broken Rail Detection Device. Rails often break under trains but do not lead to immediate derailment until further damage occurs at the fracture. This program uses uniquely coupled technologies (laser, accelerometer, and vision) to identify broken rail discontinuities and alert railroad operating authorities before the next train arrives.
- Prototype a Reference Free Measurement of Rail Force Device. Effective management of thermal stresses in rail is critical to preventing rail buckles and pull-a-parts. The objective of this research is to develop a prototype that can accurately measure the absolute stress state of rail without disturbing the track structure and without prior knowledge of the zero-stress state (neutral temperature) of the rail.
- Evaluation of mathematical, statistical, and signal processing tools for predicting track structure and substructure behavior through a multi-year joint research initiative with MetroNorth Railroad. This effort will produce models that can be used to predict adverse track conditions which will, in turn, help MetroNorth Railroad to plan maintenance and capital investments more effectively, prevent track downtimes, and, most importantly, prevent safety-related issues.
- Initiate the construction of a curve section calibration slab track at TTC. This curved track section, in addition to the existing tangent section, will be used to assess track geometry measurement system performance on curved track and verify their accuracy to measure curvature, and all track geometry parameters on curve track section. The other benefit will be to aid calibration and validation of vehicle models that will be used for simulating of vehicle/track performance.
- Conclude the ballast research program and determine track geometry degradation rates as they relate to ballast fouling levels and moisture content. Develop guidance for the Office of Railroad Safety enforcement of fouled ballast locations having degraded track geometry conditions.

Funding requested in FY 2020 will advance many initiatives under the Track Research Program, including:

- Updated FRA rail defect library at TTC for the entire research community. Prototypes for rail measurement for non-contact rail integrity testing and acoustic based rail vibration measurement for non-contact rail integrity testing.

- Automated method to assess track fouling and the development of safety criteria through understanding of subgrade failures. Improved understanding of ballast mechanistic behavior and properties.
- Prototypes to measure rail stress without a zero reference. In-progress build of a rail stress and rail neutral temperature test bed at TTC building upon the specifications and plans developed under FY2019 funding.
- New test capabilities of the specialized test zone at TTC focused on investigating the relationship between degraded ballast conditions and the integrity of track as a system. Report of the effectiveness of the UIT to improve weld strength through revenue service testing at the mega site(s).
- Completed modeling and in-track testing of instrumented Engineered Polymer Composite (EPC) ties to evaluate the thermal effects on (1) track gage and (2) stress/load environment. Finalized science-based recommended practices for the safe implementation of EPC tie in revenue service using the research results.
- Finished design and initiate building of curved test bed that can be used to validate the accuracy of track geometry measurement systems being used by FRA and the industry.
- Recommendations on third body layer influence and parameters, and operating conditions that can cause rolling contact fatigue (RCF).
- Developed procedures to include advanced friction models that examine the effects of falling friction, speed, and third body layer on wheel-rail contact forces, and 3D contact geometry. Progress toward building of vehicle and track models for various equipment and operating practices to be used for derailment investigations or developing safety.
- Extensive field testing of End of Train Broken Rail Detection Device to make the technology viable for commercial investment and further development.
- Completion of a map-based intelligent decision support tool, implementing an innovative artificial intelligence algorithm based on track-related data, for the risk analysis and prediction of broken rails due to rail defects.
- Automated Change Detection System will be deployed on the FRA safety inspection car. Continue development of scientific foundation for Track Inspection regulation reforms via joint FRA/industry pilot studies.
- Concrete Tie Technology Advancement – Complete industry field trials of production ties made using design and testing standards created through FRA research.

Track and Structures.....\$3.90 M

Rail Performance and Integrity

This research focuses on the development of rail defect growth rates and new innovative technologies to find rail defects in track prior to causing a derailment.

Activities:

- Continue to gather rail defect donations from at least three Class I railroads, characterize these defects, and add them to the FRA rail defect library at TTC for the entire research community to utilize in developing better detection technologies.
- Building upon FY 2018 and FY 2019 efforts, develop a second-generation prototype for Laser Doppler Vibrometer rail measurement for non-contact rail integrity testing.

- Third generation revenue-service prototype for acoustic based rail vibration measurement for non-contact rail integrity testing.
- Develop first in-service prototype for rail flaw 3D image scanner.
- Machine learning and automation for identifying defects for internal rail flaw detectors.

Track Inspection Technology and Processes

This research automates the track inspection processes and develops models for combining track related risk measures.

Activities:

- Develop procedures to verify and validate the performance (precision, accuracies, true & false positive rates, etc.) of new advanced systems to ensure the efficacy of these new inspection techniques.
- Develop mathematical/statistical models for combining multiple track-related measures (including ballast condition) to enhance predictive capability of each with respect to the condition of the overall track system.
- Install the change detection system previously developed on an in-service rail car for testing and evaluation.

Track Support & Substructure

This research seeks to prevent derailments caused by track support and subgrade issues.

Activities:

- Develop further understanding of ballast mechanistic behavior and properties and development of safety criteria with automated method to assess track fouling.
- Further development of Vertical Track Deflection Measurements to provide a structural indication of the track support structure with large deflection indicating weakness in the track support layers.
- Further refinement of GRMS technology to identify potential track strength weakness at the rail tie interface.

Track Buckling and Panel Shift

This research builds upon the FY 2019 first generation prototypes for measuring rail stress without a zero reference. This measurement is critical for the prediction of track buckling risk.

Activities:

- Develop second generation prototypes to measure rail stress without a zero reference.
- Initiate build of a rail stress and rail neutral temperature test bed at TTC building upon the specifications and plans developed under FY2019 funding.
- Initiate and develop curve monitoring technologies to control rail longitudinal force and track stability in order to prevent derailments. Uneven breathing and causing buckles.

On-Track Research and Testing

This joint program seeks to conduct in-field track research and testing with the Association of American Railroads to prevent derailments caused by track and structures.

Activities:

- Expanding upon the test capabilities of the specialized test zone at TTC focused on investigating the relationship between degraded ballast conditions and the integrity of track as a system.
- Further evaluation of the effectiveness of the UIT (Ultrasonic Impact Treatment) to improve weld strength through revenue service testing at the mega site(s).
- Developing and evaluating the next generation RHRW (Rail Head Repair Welds) for rail-related defect removal through lab and controlled-environment testing.
- Initiating tests focused on the effects of cold weather on the integrity of the track system.

Tie and Fastener Performance and Integrity

This research builds upon the FY2019 modeling and testing of instrumented EPC ties.

Activities:

- Complete modeling and in-track testing of instrumented EPC ties to evaluate the thermal effects on (1) track gage and (2) stress/load environment.
- Finalize science-based recommended practices for the safe implementation of EPC ties in revenue service using the research results.

Transportation Technology Center.....\$1.10 M

This effort supports world-class research facilities for rail safety innovation and the overall management of FRA programs and projects conducted at TTC. Activities include leadership of project teams, monitoring of program and project technical and financial progress, status reporting and planning support to FRA.

System Performance and Data Analytics.....\$1.00 M

Vehicle Track Performance

The goal of this research is to better understand how track and train interact and how infrastructure reacts with vehicle given the industry trend toward higher loads or faster service.

Activities:

- Finish the design and start building a test bed within a curve that can be used to validate the accuracy of track geometry measurement systems being used by FRA and the industry.
- The Track Program will also support the Office of Railroad Safety in (1) writing a rule of particular applicability for the operation of new high-speed services and (2) performing testing and analysis to study and possibly modify track geometry parameters for operation of vehicles at conventional speeds.

Wheel-Rail Interface

The goal of this project is to continue research to understand the root cause of Rolling Contact Fatigue (RCF) and develop methodology, techniques and inspection tools, to identify the problematic conditions before they become a safety threat.

Activities:

- Development of RCF evaluation criteria and automated methods to measure this criterion.
- Development of recommendations on third body layer influence and parameters, and operating conditions that can cause RCF.

Vehicle-Track Modeling, Simulation and Validation

The goal is to continue research in all areas of Vehicle-Track Modeling.

Activities:

- Continue support the development of procedures for both model building and model validation.
- Continue to support the development of procedures to include advanced friction models that examine the effects of falling friction, speed, and third body layer on wheel-rail contact forces, and 3D contact geometry.
- Support building of vehicle and track models for various equipment and operating practices to be used for derailment investigations or developing safety.

Track Predictive Analytics

The goal is to continue research in predictive analytics to improve railroad safety.

Activities:

- Initiate the development of a suite of technologies utilizing artificial Intelligence (AI) to increase safety and reduce human error by improving the speed, accuracy, and consistency of inspection processes.
- Develop improved methods to locate, monitor and predict the performance of difficult to detect railroad track safety issues such as rail internal defects, longitudinal rail force related issues, and ballast vertical and lateral restraint.

ROLLING STOCK PROGRAM

The FY 2020 Request includes \$5.21 million for FRA's Rolling Stock Research Program

The number of accidents due to equipment-related causes has decreased by 6 percent from 2009 to 2018. This has been due, in part, to previous research resulting in new operating practices and equipment standards for conventional rail, high-speed rail, and hazardous material transportation.

Full-scale testing and computer modeling under this program have led to improvements in crashworthiness of passenger equipment. The Railroad Safety Advisory Committee (RSAC) used the research results to develop a process for evaluating the suitability of equipment designed to alternative standards to be operated in the US. Based on this process, FRA granted a waiver to the Denton County (Texas) Transit Authority to operate new passenger equipment designed to alternative standards. The availability of the equipment has supported the

implementation of new and expanded passenger rail service across the country. The statutorily mandated Next Generation Equipment Committee adopted crash energy management features, based on FRA research, in its specifications for new passenger rail vehicles. Furthermore, the introduction of crashworthiness improvements developed by FRA is saving the lives of locomotive crews.

Anticipated FY 2019 accomplishments for the Rolling Stock Research Program include:

- Although rare, recent passenger train accidents in which vehicles overturned have resulted in fatalities when window systems failed and occupants were dragged out. Research will continue to comprehensively describe the engineering requirements placed on glazing systems, develop effective strategies for balancing all of the safety demands and provide recommendations for glazing strategies which offer maximized occupant containment in accidents.
- In recent years, railroads have sought to develop methods to safely use Liquefied Natural Gas (LNG) as a fuel for locomotives and to safely transport LNG as a commodity in regular freight service. The FRA and Pipeline and Hazardous Materials Safety Administration (PHMSA) will continue to support cooperative research for the development and implementation of standards which will assure the safety of such operations.
- Recent accidents involving very long train (VLT) consists with more than 150 cars, in rural areas, like West Virginia, require FRA to research safety issues related to VLT.
- Development and dissemination of emergency responder training videos for evacuation of locomotive crew from equipment involved in accidents.
- Continue cooperative research to understand the root causes of vertical split rim wheel failures and begin to develop solutions. Vertical split rims, though relatively infrequent, have caused serious accidents at full track speed. Work will continue with the industry wheel research consortium, which includes wheel manufacturers, major railroads, the AAR, and independent experts in wheel metallurgy.

Funding requested in FY 2020 will advance a number of initiatives under the Rolling Stock Research Program, including:

- Train Energy Dynamics Simulator (TEDS) will be used for accident/incident investigations, safety, risk and ride quality evaluations, energy consumption and train operations studies, new and conventional equipment design evaluations.
- Data will be collected from laboratory and field tests on train handling and brake performances issues surrounding very long trains (VTL), train consists in excess of 150 cars. Guidelines and operating practices will be developed based on research results in support of the transportation of cryogenic liquids including liquefied natural gas by rail, DOT 113 tank cars survivability and vacuum performance will be quantified based on fire tests. DOT 113 will undergo impact tests to assess its structural integrity. Improvements to industry and Federal standards for thermal insulation will be made.
- Develop electronic brake technology for improved stopping distance of conventional and very long trains (150+ cars).

- Recommendations on improvements to locomotive fuel tank standards as related to diesel multiple unit (DMU) fuel tanks will be presented to industry for consideration
- Further develop the Electronically Driven Handbrake to improve safety and train operations.

Hazardous Material (HazMat) Transportation.....\$1.10 M

This research program focuses on improving the safety of rail transport of hazardous materials and is conducted in cooperation with the railroad industry, PHMSA and Transport Canada. This program seeks to develop new standards and methodologies to evaluate the safety and performance of current and new tank car designs used to transport hazardous material. Having a safe means of transportation is vital to growing domestic energy production, both for domestic use and export.

Tank Car Research

In FY 2020, the HazMat Tank Car Research activities will strive to develop and improve technology of packages used to transport hazardous materials. Reduction in occurrences of release of material during rail accidents and incidents is the goal of the research efforts under this subprogram,

Activities:

- Instrumented tank cars will be used to record the operating environment in various train configurations, and evaluation of new non-destructive techniques to identify cracks on tank cars.
- Fire test of a DOT 113 tank, used to transport cryogenic material for evaluation of the safety features of the tank under various fire scenarios.
- Research in support of development of industry standards for natural gas tenders.

Structural Integrity

The goal of the research project is to evaluate the performance and durability of safety equipment and protective systems currently designed for rail tank cars and portable tanks, and to investigate new and innovative safety technologies that can improve the safety of the tank car as a whole.

Activities:

- Conduct full-scale dynamic crash test on a DOT 117, DOT 105, and DOT 113 tank cars to evaluate the performance of these tank cars. Computer models will be validated through the data collected from the tests,
- Test new steel and composite materials for use in construction of tank cars and safety components for improved structural integrity.

Accident Consequence Reduction

This research will study current loading and unloading practices of hazardous material to improve the operating practices and securement of the hazmat package for safe transportation by rail. Reduction of non-accident releases of hazmat is also a goal of this research project.

Activities:

- Continue to investigate accidents involving hazardous material packages, continue to collect tanks and pieces from these accidents for further forensic investigation.

Rolling Stock Equipment and Component (RSEC).....\$1.90 M

Research efforts in the Rolling Stock Equipment and Components (RSEC) program area focus on development and improvement of equipment defect detection and control. Both wayside and on-board detection and control systems offer diverse platforms for such research and demonstration.

Rolling Stock Component Safety

The Rolling Stock Component Safety research project focuses on reduction in risks, accidents, and derailments of rail rolling stock through improved material, health monitoring and performance of railroad components.

Activities:

- Investigation of catastrophic accidents and derailments resulting from rolling stock component failure will be conducted to develop a better understanding of the force, stress levels and failure modes of critical components.
- Investigation of braking and wheel relationships and how residual stresses in these components can promote internal wheel defects leading to reduced wheel life. The research will result in a comprehensive understanding of the pattern and extent of such stresses under various braking conditions, allowing for advance the wheel life prediction analysis and reduce wheel failures.
- Continue to investigate bearing performance as it relates to grease degradation, bluing, and changes in metallurgical properties to improve bearing health and performance. Test and evaluate advanced bearing technology and testing that prevents water related failures due to various environmental exposure.

Rolling Stock Maintenance & Inspection

Rolling Stock Maintenance & Inspection research activities will assess, evaluate, and test advanced inspection and communication technology to improve train operations and maintenance practices.

Activities:

- Continue to assess the implementation of Wheel Temperature Detection (WTD) technology and its effectiveness in improving the safety of train operations. Partner with industry stakeholders to evaluate wayside detection systems and their impact on operational safety, data flow analysis and data quality assurance.
- Test hybrid communications network to communicate between advanced devices and the locomotive.
- Continue to conduct research, test, and evaluate machine vision technology for truck components. This will accelerate development rates for technologies that can automatically

inspect components of railcar trucks and foresee any issues with the implementation of such technologies.

Train Handling & Operating Practices

Train Handling & Operating Practices research evaluates and simulates safe train handling and operations and improved network capacity.

Activities:

- Continue to evaluate safe operations, train handling and braking operations of very long trains (150+ cars). Determine equipment capabilities and train handling requirements for very long trains. Effort will continue to improve train dynamics analysis on both vehicle-track level and long train level.
- Continue simulations of train derailments to identify derailment mechanisms and causes using TEDS. Continue TEDS validations to build confidence in the system through a revenue service train validation.
- Develop effective methodologies for evaluating the economic benefits of improving network velocity and capacity to demonstrate the benefits of technologies such as advanced brake systems, PTC, higher speed operations, shared corridors, etc.

Train Occupant Protection\$2.21 M

The Train Occupant Protection Program will carry out research on structural crashworthiness and interior safety of locomotives in intercity and commuter rail cars, with the aim of improving the survivability of rail passengers and crewmembers in accidents. The goal of this research program is to promote and improve the safety of the national passenger rail transportation system.

Locomotive Crashworthiness

Research in this area will develop improved strategies and designs for rail rolling stock to reduce injuries and fatalities resulting from rail accidents (i.e., collisions and derailments). Crashworthiness and Occupant Protection continue to be major safety issues as evidenced by several recent, high-profile collisions and derailments.

Activities:

- Train-to-train destructive impact tests to demonstrate the override protection afforded by the addition of crashworthy components to existing locomotives.
- Work related to Glazing Integrity will continue due to several fatalities that have occurred when passengers were ejected from failed windows during a rollover. Planned activities include development of detailed plans for drafting, analyzing, and testing engineering strategies for glazing systems. The research results will be used to support regulatory and industry standard development. This research also meets a National Transportation Safety Board (NTSB) Recommendation and is supported by the Railroad Safety Advisory Committee (RSAC).
- Research activities focus on conceptualizing, analyzing, designing, and demonstrating the effectiveness of engineering improvements to rail vehicle crashworthiness. Review of new

proposed passenger equipment design for crashworthiness and functionality in coordination with the industry during the equipment procurement process.

Cab Displays, Controls, & Environment

The goals of the Cab Displays, Controls & Environment research area are: to improve visibility of locomotives at night and for on-board crew to provide extra alerting and visibility for track workers, attempting trespassers, at grade crossings.

Activities:

- Research activities focus on improving locomotive cab displays, conducting a research effort to develop an optimized cab display that could be unified across all railroad providers, improve train control and visibility at night.
- Effort will continue to implement using advanced, safe, and cost-effective light-emitting diode (LED) headlight across all railroad providers.

Fire Safety Research

The Fire Safety Research area is focused on investigating cost-effective, alternative performance methods and criteria for passenger rail equipment fire safety through analysis and testing.

Activities:

- New designs for Diesel Multiple Unit cars (DMUs) are being introduced into service. FRA will conduct research and evaluations of new designs to ensure they provide adequate protection of fuel tanks during collisions, derailments or grade crossing accidents. Computer simulations of performance of rail car designs that are atypical for the current U.S. market using validated fire safety models will be undertaken in this research area.
- Dissemination of fire engineering research results for development of industry standards and modernization of Federal requirements.
- Investigate integration of validated fire dynamic models with railEXODUS to evaluate fire growth and passenger egress based on rail car interior designs, evaluation of toxicity of materials.

Emergency Preparedness Research

The Emergency Preparedness Research area goal is to investigate and develop innovative safety technologies that improve emergency preparedness and egress features of passenger rail equipment using state of the art simulation tools.

Activities:

- Research activities will evaluate passenger equipment egress rates based on simulation tools such as railExodus and fire dynamic simulations.
- Collection of data from fire responders training exercises on the bi-level rollover rig to quantify the FRA requirement of “rapid and easy” operation of passenger rail equipment emergency access systems.

TRAIN CONTROL AND COMMUNICATION PROGRAM

The FY 2020 Request includes \$4.4 million for FRA's Train Control and Communication Research Program.

The number of signal-related train accidents has decreased by 19 percent from FY 2009 to FY 2018 with steady incremental improvements each year. Further reduction is expected from the installation of Positive Train Control (PTC) on certain routes, as PTC is one of the most transformative technological changes in the history of railroad signal technologies.

The Train Control and Communication research activity has innovated PTC-related technologies for several years. Notable successes include:

- Freight and Passenger Braking Algorithm development and refinement to improve braking enforcement performance for passenger railroads;
- Cybersecurity protection and PTC communications messaging verification and validation; and
- Rail Crossing Violation Warning Application Development, a cooperative vehicle and infrastructure system that assists drivers in avoiding crash-imminent situations at railroad crossings;
- Automated and autonomous vehicle research to develop interoperability standards and improve grade crossing safety.

Research has also focused on improving safety at grade crossings. The number of accidents at grade crossings fell by 13 percent from 2008 to 2017. Research that contributed to this reduction included the following:

- Research on the most significant influences on grade crossing safety, including commercial driver safety, locomotive conspicuity, crossing closure and grade separation, sight line clearance, and warning device upgrades.
- A study of a four-quadrant gate and an obstruction detection system showed the same effectiveness as closing the crossing, but without the economic and societal costs.

Anticipated FY 2019 accomplishments include:

- Design and test of the enhanced PTC braking algorithm to reduce unintended PTC enforcements.
- Deployment of the interoperable vital Employee In Charge Portable Terminal to protect roadway workers in work zones.
- Prototype LiDAR scans files into the FRA Grade Crossing Inventory database
- Field test and evaluation of autonomous and connected-vehicle integration with highway-rail grade crossing safety systems.
- Support the railroads' implementation of PTC Interoperability Technology.
- Initial analysis of Artificial Intelligence suitability in trespass research.
- Deployment of Enhanced Overlay PTC to increase operational efficiencies.

Funding requested in FY 2020 will advance a number of initiatives under the Train Control and Communication Research Program, including:

- Advance autonomous and connected-vehicle technology integration with highway-rail grade crossing safety systems.
- Develop technologies supporting deployment of Automated Train Operation systems.
- Continue research support for cybersecurity and communication integrity.
- Continuing support for PTC technology refinement and enhancement as a result of the ongoing testing and evaluations in braking performance, communication security and reliability, and system interoperability.
- Enhanced PTC risk modeling and simulations to help the Office of Railroad Safety to evaluate railroads' safety plans and risk assessment of modification to existing train control systems, as well as the anticipated upgrades to PTC systems.
- Develop standardized methods and procedures for PTC performance data collection and analysis to assist the Office of Railroad Safety and industry monitor and assess vulnerabilities in PTC systems.
- Trespass counter measure technologies research to reduce fatalities and injuries at railroads right of way.

Train Control and Communication.....\$3.40 M

Positive Train Control (PTC) Next Gen Research

This research takes advantage of advances in sensor, communications, and automation technologies to develop various levels of vehicle automations up to fully autonomous operation to improve safety, efficiency, and ease regulatory compliance. Also, this research includes rail network capacity improvement (without adding additional track) through advanced train control technologies to support anticipated economic and population growth.

Activities

- Work with the railroad industry, other transportation modes, university research, private sector, and others to enhance and extend current PTC safety technologies to meet the challenges stemming from economic and population growth.
- Develop interoperability, interface standards, and concept of operations to handle automated and autonomous vehicle operations.

PTC Technology Research

The objective of this research is to develop higher reliability PTC technology subsystems and tools to enable the railroad's industry implementation of the PTC mandate. It improves operating safety, security, and capacity in the movement of goods and connecting urban and rural communities for a growing economy. Through Technology Transfer, this research results in many commercialized products adopted by the railroad industry.

Activities:

- PTC-enforced work zone protection technology deployment.
- Railroad wireless spectrum use planning and optimization.

- Rail communication security solution testing.
- PTC reliability and availability improvement testing.
- PTC automated braking system refinement.

PTC Interoperability

This research focuses on establishing PTC systems interoperability standards to ensure all PTC systems can communicate and interact with each other seamlessly. This will result in smooth train operations across multiple territories and regardless of what combination of locomotives, track territories, and train crews involved in the train movement.

Activities:

- Continue interoperability research to ensure compliance with the RSIA of 2008.
- Engage stakeholders to develop interoperability specifications, lifecycle management, verification of interoperability between differing PTC systems, applications and integration of products and processes into the National PTC network. These activities will evolve as PTC is rolled out on all railroads.

Intelligent Transportation Systems (ITS)

This research facilitates the collaboration between railroads, FTA, FHWA, and FMCSA and automotive industry stakeholders to develop coordinated solutions for automated transportation systems. Accelerated development of connected and autonomous road vehicles must be mirrored by railroad investment in rail automation and highway-rail grade crossing technologies.

Activities:

- Continue development of standards and practices for automated rail operations and highway-rail grade crossing systems.
- Evaluate innovative technologies important to rail ITS.
- Test prototype and reference architectures.
- Monitor model deployments and evaluation of connected safety systems.

Grade Crossing Safety and Trespass Prevention.....\$1.00 M

Grade Crossing Safety Research plays a vital role in reducing accidents and incidents around grade crossings, which has for decades been the rail industry's largest public safety concern. It continues the collaboration with State DOTs, local authorities, and communities to study and implement innovative solutions to improve safety around grade crossings. This research takes advantage of advancement in drones and UAV technologies to detect and prevent trespassers. In an effort to enhance and verify the accuracy of FRA grade crossing inventory database, this research uses LiDAR technology to map grade crossing profiles including elevation to identify hump crossings and prevent accidents resulting from low ground clearance vehicles being stuck at crossings.

Trespass Countermeasures

Trespassing is the leading cause of accidents that happen on a railroad. The purpose of this research area is to investigate and evaluate new technologies and their applications to mitigate the risk of accidents on railroad track due to trespassing

Activities:

- Evaluate the applicability of drones and UAVs for trespass detection and prevention.
- Investigate the use of Artificial Intelligence that can be employed in detecting trespassers.

Grade Crossing Technology

This research will investigate, analyze, and test new technologies to improve public safety at grade crossings by focusing on developing and prototyping innovative engineering solutions, education and outreach methods, and enforcement.

Activities:

- Continue research on grade crossing technology and engineering solutions including train/gate operation, stuck vehicle and obstacle detection, and traffic preemption.

Grade Crossing Pedestrian Safety

This research will evaluate the effectiveness of technologies and infrastructure improvements that can mitigate the risk of accidents at grade crossings where pedestrians are involved.

Activities:

- Continue evaluation of the effectiveness of grade separations that can be either roadways with pedestrian paths, or dedicated pedestrian underpasses or overpasses;
- Finalize the evaluation of new types of pedestrian gates (known as “gate skirts”) that can aid in preventing pedestrians to cross the tracks when a train is approaching.
- Improve pedestrian safety around grade crossing through channelization.

Grade Crossing Modeling and Simulation

This research evaluates safety improvements at grade crossing without the actual need to perform field testing. Modeling consists of simulating traffic and pedestrian scenarios to understand what safety improvements can be effective at a grade crossing. Traffic simulations are also evaluated to understand several implications that could result from a safety improvement.

Activities:

- Continue GradeDec.Net improvements and detailed railroad traffic modelling.

Grade Crossing and Trespass Outreach and Education

This research develops and disseminates educational materials and tools to the public, including local and state governments, law enforcement agencies, and schools, among others in collaboration with FRA’s Office of Railroad Safety. The purpose of the tools is to provide awareness of the risk of accidents at grade crossings when appropriate behavior is not observed.

Activities:

- Develop new tools using drones and UAV for use by law enforcement community.
- Continue to disseminate rail Right Of Way (ROW) trespass prevention outreach materials.
- Organize a workshop by mid-2019. This workshop will continue the collaboration effort among several national and international stakeholders on trespass and suicide issues.

HUMAN FACTORS PROGRAM

The FY 2020 Request includes \$2.09 million for FRA's Human Factors Research Program.

There was a 3.5 percent reduction in human factors-caused accidents from 2009 to 2018, in part due to FRA's Human Factors R&D. For example, previous fatigue research has provided a scientific basis to support new rules for commuter and intercity passenger rail hours of service and fatigue risk management, as required by the Rail Safety Improvement Act.

Although previous work has provided improvements to the rail system, crew fatigue continues to be an area of concern. Split shifts, irregular shifts, and lack of effective guidance and enforcement for rest requirements are areas that need further study and could require regulatory or voluntary changes in recommended practices to reduce the likelihood of fatigue-related accidents.

The FRA's Cab Technology Integration Laboratory (CTIL), developed under the Human Factors research program, provides the FRA and the rail industry the capability to examine the effect of man-machine collaborative automation, train controls, new and more meaningful displays and different operating procedures, on human and system performance. The CTIL research results are more easily visualized by labor and the operating railroads through the use of the same simulation and track environments provided for training to crews at their home railroads. The CTIL also provides a system development test and prototyping capability in a virtual environment more suitable for new system concepts, where there is less risk, before moving on to an operational testing environment.

Anticipated FY 2019 accomplishments for the FRA's Human Factors R&D program include:

- Development and ongoing evaluation of a pilot study to explore the key program characteristics of performance-based regulation (similar to FAA's Aviation Safety Information Analysis and Sharing - ASIAS), including voluntary information sharing and reporting.
- Human reliability studies following full implementation of PTC technology in the CTIL to understand the challenges of human computer interaction and integration of multiple interfaces.
- Study drivers' response to in-vehicle auditory alerts notifying them of highway-rail grade crossings.
- Develop a communication strategy to expand the use of "Railroaders' Guide to Healthy Sleep" website.

- Dissemination of results regarding why locomotive engineers pass stop signals, including recommendations for preventing these accidents in the future.
- Updating the FRA report that reviews known characteristics of victims of rail trespass and suicide in the U.S. (last version: *Defining Characteristics of Intentional Fatalities on Railway Right-of-Way in the United States, 2012-2014*).

Funding requested in FY 2020 will advance a number of initiatives under the Human Factors Research Program, including:

- Transformative locomotive display technology (Head-up displays).
- Automation assisted, “See-ahead” down-range object detection and identification for locomotive engineers.
- Research fail-safe system for unobtrusive monitoring of locomotive crew for fatigue.
- Examining trends in driver behavior at grade crossings and work with rail carriers to implement intervention strategies to improve safety at grade crossings.
- Continuing to conduct pilot studies with rail carriers that are implementing strategies to mitigate trespass and suicide.
- Using GIS mapping capabilities to work with stakeholders to better understand their trespass/suicide problem to determine the most effective mitigation strategies.

Human Factors (HF).....\$2.09 M

Rail Trespass and Suicide Prevention

The objective of this research area is to examine the human behaviors associated with rail trespass and suicide, in order to increase rail safety and decrease the number of fatalities along the right-of-way. Rail carriers, consultants, and academics across the globe invest research dollars in studying trespass and suicide prevention. Fatalities along the right-of-way due to trespass and suicide are a universal can happen anywhere there is an active railroad.

Activities:

- Continue to conduct pilot studies with rail carriers that are implementing strategies to mitigate trespass and suicide.
- Evaluate the effectiveness of these strategies and disseminate the results in the FRA eLibrary
- Assist FRA’s Office of Railroad Safety in studying trespass prevention strategies proposed in the August 2018 report to Congress.

Automation, Operating Personnel Information Management and Control

The Human Factors program will research emerging and transformative technologies in automation. New and emerging technologies may have a significant impact on rail system and employee performance, efficiency and flexibility. Research is needed to ascertain what impacts these technologies have had on human and system performance and safety.

Activities:

- Coordinate research activity with railroad industry stakeholders in the form of research planning groups to address relevant need for results to accomplish informed decision-making in implementing automation.
- Research new control and display interfaces to support changed operations that automation may bring.
- Upgrade FRA's simulation and modeling capabilities to support automation research activity. Develop more robust system testing environment for automated systems where human operators or decision-makers have new roles as a result of automation.

Fatigue

In FY 2020, research will be conducted to combat human performance degradation in railroad operations. FRA is interested in research projects and innovative technologies that address the railroad industry's susceptibility to the risk of injury and property damage caused by human fatigue, loss of attentiveness, and distraction.

Activities:

- Mental state detection and fail-safe technologies.
- Monitoring engineer fatigue and prototyping fail-safe technology.
- Use of machine learning technology in fatigue detection.
- Research scheduling/calling systems, shiftwork, and commute times.

Highway-Rail Grade Crossing

FRA will conduct research on how motorists react to new technologies at grade crossings. FRA has learned that there are limited safety benefits gained when new technologies are implemented without a complete understanding of how humans will interact with and react to that technology. Human factors research on grade crossing safety should continue indefinitely; as long as there are fatalities at grade crossings that can be attributed to human error, FRA will need to continue to study mitigation strategies.

Activities:

Examine trends in driver behavior at grade crossings and work with rail carriers to implement intervention strategies to improve safety at grade crossings.

RAILROAD SYSTEMS ISSUES PROGRAM

The FY 2020 Request includes \$1.30 million for FRA's Railroad System Issues Program. A small portion of this funding is for staff to oversee contractors' and grantees' performance and to witness testing, including travel.

Anticipated FY 2019 accomplishments for the Railroad Systems Issues program include:

- Updating the safety risk model for guiding future R&D.
- Evaluating projects conducted by the four R&D divisions.

- Supporting the Workforce Development Program covering: Council on Women and Girls, Transportation Career Pathway Model Development, Minority Serving Institutions Task Force, and the YES Mentoring Program.
- Conducting a railroad industry workforce assessment to gather data on trends, skill demands, training opportunities, industry best practices, cross-modal efforts, etc.

Funding requested in FY 2020 will advance a number of initiatives under the Railroad Systems Issues Research Program, including Rail Safety IDEA (Innovations Deserving Exploratory Analysis) program grants with the Transportation Research Board and Intelligent Rail Systems Research.

Railroad Systems Issues (RSI).....\$1.30 M

Rail Safety Innovations Deserving Exploratory Analysis (IDEA)

The Transportation Research Board (TRB) initiated this effort in conjunction with FRA to address safety needs within the railroad industry. The focus of this project is to solicit new innovation and technology in rail. Each research effort selects has a unique timeframe, generally lasting one to two years.

Activities:

With multiple activities each year, the outcomes vary based on the selected projects and duration of research. In 2020, the focus is on:

- Starting new research and completing existing research (based on timelines).
- Delivering an innovative solution to the railroad industry. Technology transfer of 2020, 2019 and 2018 efforts.

Project Selection

Research Development & Technology (RD&T) utilizes a software package (DecisionLens Software) and the Safety Risk Model as part of the prioritization process. This project includes the activities and costs associated to maintaining the license for the prioritization software, optimizing the Safety Risk Model and executing the prioritization process. RD&T conducts prioritization activities to effectively manage its budget and ensure that stakeholder and industry needs are inputs to the investment planning process.

Activities:

- Optimize the prioritization methodology/process by updating the safety risk model and Decision Lens to guide the RD&T project safety risk decisions and improve efficiency in project spending.
- Prioritize RD&T's research portfolio.

Project Evaluation

The focus of this project is to educate and train program managers (PMs) about project evaluation techniques, develop performance measures, improve project progress, and reduce cost. PMs and external parties will evaluate projects conducted by the five RD&T divisions to measure success, improve project performance and railroad safety. Project evaluation

processes will help RD&T better manage funding and meets the U.S. DOT Strategic Goal of Accountability.

Activities:

- Increase maturity of project evaluation practices by continuing project evaluation training, creating project evaluation tools and continuing the implementation of RD&T's project evaluation methodology.
- Standardize and optimize RD&T's performance measurement and project evaluation.

Program Support

This project provides technical editing, analyst and management support to RSI. FRA research produces various deliverables as part of RD&T technology transfer process and FRA works with technical editors to publish this content. Program management/analyst/subject matter experts provide project, program and portfolio management support.

Activities:

- Edited and published RD&T papers, reports, results and other material.
- Strategic planning, tracking, and management of RD&T's portfolio, information and data.

Transportation Technology Center (TTC)

The primary objectives of this funding are to maintain the one of a kind infrastructure at TTC through assessment of equipment and facilities to accommodate the testing and evaluation of intelligent railroad systems technologies and to provide the FRA with the type and quality of facilities and equipment needed to meet its missions in safety, infrastructure, innovation, and accountability. Focused on enhancing railroad safety, TTC drives national research, development and application of new technology for railways, suppliers, governments, and others involved in rail transportation.

Railroad Systems Issues

This project conducts research focused on safety with secondary strategic alignment to innovation, infrastructure and accountability in the railroad industry. The problem addressed by this project will be selected based on industry need.

Activities:

- Continued innovative research and technology transfer to improve America's railways.
- FRA Support for TRB's core program activities including the meetings, committees, and annual conference.

Workforce Development (WFD)

Provide support and domain expertise in the areas of railroad WFD to adequately identify suitable approaches for both the management and capture of rail workforce-related trends, and respond to DOT data calls. This research increases the awareness of railroad industry WFD issues by establishing and/or participating in forums and research efforts to foster and support industry collaboration.

Activities:

- Participate in the DOT Education and Workforce Development Community of Practice on behalf of FRA.
- Conduct and publish a railroad industry workforce assessment (known as the Modal Profile).
- Capture and analyze data on trends, skill gaps, skill demands, training opportunities, industry best practices, and cross-modal efforts.

Locomotive Engine Efficiency Research

The goal of this research is to investigate innovative locomotive engine technologies to ensure the safe and efficient transportation of goods and people. Areas of focus for this research program include; reduction in fuel consumption, improvement in engine component life, and improvement in the efficiency of older, less efficient locomotives. Research is conducted in collaboration with Class I railroads to demonstrate and develop prototype systems.

Activities:

- Assess technological innovation such as locomotive waste heat recovery systems using high-pressure heat exchangers in a real-world environment.
- Development and prototype demonstration of hybrid systems such as battery technology, and heat exchangers for improved efficiency.
- Deployment of a prototype fuel cell technology in railroad application for propulsion.

Accessibility

Investigate universal and inclusive designs for accessibility on-board passenger trains. FRA is in a unique position to collaborate with stakeholders (other Federal agencies, disability advocacy groups, passenger rail operators, and equipment manufacturer and industry groups) to ensure that new standards for accessibility are feasible and safe; balancing the requirements of the law with the capability of the equipment.

Activities:

- Implementation of procurement specification standards for equipment.
- Identify available technologies that can improve communication and travel experience for passengers with disabilities.
- Investigate the impact of new requirements for accessible on-board passenger rail equipment, as related to safety, usability and efficiency.

What benefits will be provided to the American public through this request and why is the program necessary?

As described above, FRA's research, development, and technology projects provide tangible safety and operational benefits to the railroad industry. FRA's basic and applied research efforts help to develop innovative solutions to challenges facing the rail industry and ensures that the best available science and technology are the basis for FRA's safety rulemaking, enforcement, and programs. FRA also develops technology that the rail industry can adopt voluntarily to improve safety. FRA conducts research, development, and technology initiatives independently and collaboratively to:

- Ensure safety is the paramount consideration in exploring new technologies and practices;
- Leverage public resources, disperse costs, and reduce or eliminate redundant efforts;
- Assess new concepts and technologies that the railroad industry is using; and
- Promote industry adoption of promising research results.

Research into tank cars will benefit the American public by reducing the spillage of hazardous material. FRA's R&D program will help protect people who live in neighborhoods through which trains operate and reduce the likelihood of environmental damage due to hazardous material releases. Two areas of research that help achieve this are (1) reducing failures such as broken wheels and rails that cause derailments and (2) improving the strength of tank cars to better survive derailments that do occur.

Safe rail transportation directly benefits the public traveling by train. FRA's R&D program will reduce train collisions by facilitating the implementation of new technologies such as PTC. It will reduce collision risks when passenger trains share the same corridors as freight trains. The program will lay the foundation for regulatory reform and performance based approaches that will reduce the likelihood of derailments. FRA's R&D program will also improve occupant protection in collisions and derailments.

By addressing the root causes of grade crossing accidents, FRA's R&D program improves the safety of the American public that needs to cross railroad rights-of-way. Human factors research into driver behavior at highway-rail grade crossing and the effectiveness of alternative warning systems helps identify optimum solutions. Developing new technologies for crossing protection and train to vehicle communications leads to reduced incidents of grade crossings being blocked, which can delay emergency responders.

FRA's R&D program helps to reduce fatalities and injuries to trespassers on railroad property. Members of the public are known to take shortcuts across railroad property. Innovative solutions for warning people of the danger they face need to be researched and implemented.

By funding universities to conduct R&D, FRA supports a pipeline of future rail expertise by providing opportunity for students to prepare for rewarding jobs in the railroad industry. The age profile for railroad industry employees shows a growing demand for new entrants. University programs that offer railroad classes help provide the next generation of railroad professionals.

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD RESEARCH AND DEVELOPMENT (69-X-0745)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account
Number: 69-0745-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Obligations by program activity:			
0001	Track Program	12,475	12,000	6,000
0002	Rolling Stock Program	11,591	11,000	5,000
0003	Train Control and Communication	8,359	9,000	5,000
0004	Human Factors	6,628	6,000	2,000
0005	Railroad System Issues	4,126	4,000	1,000
0100	Total direct program	43,178	42,000	19,000
0799	Total direct obligations	43,178	42,000	19,000
0801	Reimbursable services	-	2,000	2,000
0900	Total new obligations	43,178	44,000	21,000
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	9,690	8,000	7,000
1020	Adjustment of unobligated bal brought forward, Oct 1	161	-	-
1021	Recoveries of prior year unpaid obligations	-	-	-
1050	Unobligated balance (total)	9,851	8,000	7,000
	Budget authority:			
	Appropriations, discretionary:			
1100	Appropriation	40,600	41,000	19,000
1160	Appropriation, disc (total)	40,600	41,000	19,000
	Spending authority from offsetting collections, discretionary:			
1700	Collected	-	2,000	2,000
1701	Change in uncollected payments, Federal sources	-	-	-
1750	Spending auth from offsetting collections, disc (total)	-	2,000	2,000
1900	Budget authority (total)	40,600	43,000	21,000
1930	Total budgetary resources available	50,451	51,000	28,000

Account
Number: 69-0745-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Memorandum (non-add) entries:			
1940	Unobligated balance expiring	-	-	-
1941	Unexpired unobligated balance, end of year	7,273	7,000	7,000
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	42,888	55,000	62,000
3001	Adjustments to unpaid obligations, brought forward, Oct 1	-	-	-
3010	Obligations incurred, unexpired accounts	43,178	44,000	21,000
3011	Adjustments to uncollected pymts, Fed sources, brought forward, Oct 1	-	-	-
3020	Outlays (gross)	(31,163)	(37,000)	(46,000)
3040	Recoveries of prior year unpaid obligations, unexpired	(161)	-	-
3050	Unpaid obligations, end of year (gross)	54,742	62,000	37,000
3060	Uncollected pymts, Brought Forward	(185)	-	-
3070	Change Uncollected pymts	-	-	-
3090	Uncollected pymts, Fed sources, end of year	(185)	-	-
	Memorandum (non-add) entries:			
3100	Obligated balance, start of year (net)	42,703	55,000	62,000
3200	Obligated balance, end of year	54,557	62,000	37,000
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	40,600	43,000	21,000
	Outlays, gross:			
4010	Outlays from new discretionary authority	8,983	14,000	8,000
4011	Outlays from discretionary balances	22,180	23,000	38,000
4020	Outlays, gross (total)	31,163	37,000	46,000
	Offsets against gross budget authority and outlays:			
	Offsetting collections (collected) from:			
4030	Federal sources	-	(2,000)	(2,000)
4040	Offsets against gross budget authority and outlays, disc (total)	-	(2,000)	(2,000)
4070	Budget authority, net (discretionary)	40,600	41,000	19,000
4080	Outlays, net (discretionary)	31,163	35,000	44,000

Account
Number: 69-0745-0-1-401

Line	Line Title	FY 2018	FY 2019	FY 2020
		ACT	CY	BY
4180	Budget authority, net (total)	40,600	41,000	19,000
4190	Outlays, net (total)	31,163	35,000	44,000

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION**

**NATIONAL RAILROAD PASSENGER CORPORATION
APPROPRIATIONS LANGUAGE**

**NORTHEAST CORRIDOR GRANTS TO THE NATIONAL RAILROAD PASSENGER
CORPORATION**

To enable the Secretary of Transportation to make grants to the National Railroad Passenger Corporation for activities associated with the Northeast Corridor as authorized by section 11101(a) of the Fixing America's Surface Transportation Act (division A of Public Law 114–94), \$325,466,000 ~~\$200,000,000~~, to remain available until expended: Provided, That the Secretary may retain up to one-half of 1 percent of the funds provided under both this heading and the "National Network Grants to the National Railroad Passenger Corporation" heading to fund the costs of project management and oversight of activities authorized by section 11101(c) of division A of Public Law 114–94: Provided further, That in addition to the project management oversight funds authorized under section 11101(c) of division A of Public Law 114–94, the Secretary may retain up to an additional \$5,000,000 of the funds provided under this heading to fund expenses associated with implementing section 24905 of title 49, United States Code.

**NATIONAL NETWORK GRANTS TO THE NATIONAL RAILROAD PASSENGER
CORPORATION**

To enable the Secretary of Transportation to make grants to the National Railroad Passenger Corporation for activities associated with the National Network as authorized by section 11101(b) of the Fixing America's Surface Transportation Act (division A of Public Law 114–94), \$611,000,000 ~~\$537,897,000~~, to remain available until expended: Provided, That the Secretary may retain up to an additional \$2,000,000 of the funds provided under this heading to fund expenses associated with the State-Supported Route Committee established under section 24712 of title 49, United States Code.

Explanation: The President's Budget proposes to fund Amtrak grants through the account structure authorized by the FAST Act for the Northeast Corridor and the National Network. However, the President's Budget proposes greater cost sharing between states and the Federal Government for operations of the National Network by increasing Restoration and Enhancement Grants for National Network trains. Additionally, the President's Budget proposes to strike the set-aside for Americans with Disabilities Act (ADA) station upgrades; approximately 90 percent of the ADA set-aside in FY 2018 was for projects on the National Network. Due to the reduction in Amtrak funding proposed, the President's Budget recommends providing greater flexibility to

determine the appropriate amount for ADA upgrades. This requirement will be handled through FRA's grant agreement with Amtrak.

EXHIBIT III-1
GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
(\$000)

	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST	CHANGE FY 2019- 2020
Northeast Corridor Grants to the National Railroad Passenger Corporation	650,000	650,000	650,000	325,466	(324,534)
National Network Grants to the National Railroad Passenger Corporation	1,291,600	1,291,600	1,291,600	611,000	(680,600)
TOTAL	<u>1,941,600</u>	<u>1,941,600</u>	<u>1,941,600</u>	<u>936,466</u>	<u>(1,005,134)</u>
FTEs	11	12	12	7	(5)

Program and Performance Statement

FRA's Grants to Amtrak provide capital, operating, and debt service funding to Amtrak, as well as support FRA's management and oversight of Amtrak. Funding for FY 2020 is made available by FRA in accordance with the authorities provided under Section 11101 of the Fixing America's Surface Transportation Act of 2015 (FAST Act). Section 11101 of the FAST Act authorizes separate funding for the Northeast Corridor and the National Network, which includes Amtrak's State-Supported services, Long Distance services, and other Amtrak costs not allocated to the Northeast Corridor. The FY 2020 President's Budget will mark the end of the Federal Government fully-subsidizing operating costs for Amtrak's Long Distance routes. To signify this important reform, Federal operating support for Long Distances routes is provided through the competitive Restoration and Enhancement Grants program, which will transition Long Distance operating costs to states over the next four years as the National Network is restructured.

EXHIBIT III-1a

**GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
SUMMARY ANALYSIS OF CHANGE FROM FY 2019 TO FY 2020
Appropriations, Obligations, Limitations, and Exempt Obligations
(\$000)**

	<u>\$000</u>	<u>FTE</u>
FY 2019 ENACTED	1,941,600	12
	<u>Change from FY 2019 to FY 2020</u>	
<u>ITEM</u>		
Administrative Adjustments to Base:		
Annualization of FY 2019 Pay Raise	9	-
FY 2020 Pay Raise	-	-
One more Compensable Day (262 days)	4	-
Salaries and Benefits	(766)	(5)
Other Services	(4,273)	-
SUBTOTAL, ADJUSTMENTS TO BASE	(5,026)	(5)
PROGRAM REDUCTIONS		
Northeast Corridor Grants to Amtrak	(322,911)	-
National Network Grants to Amtrak	(677,197)	-
SUBTOTAL, PROGRAM REDUCTIONS	(1,000,108)	-
FY 2020 REQUEST	936,466	7

DETAILED JUSTIFICATION FOR GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION

FY 2020 – Grants to the National Railroad Passenger Corporation - Budget Request \$000

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request	Difference from FY 2019
Northeast Corridor Grants to the National Railroad Passenger Corporation	650,000	650,000	650,000	325,466	(324,534)
National Network Grants to the National Railroad Passenger Corporation	1,291,600	1,291,600	1,291,600	611,000	(680,600)
TOTAL	1,941,600	1,941,600	1,941,600	936,466	(1,005,134)

What is this program and what does this funding level support?

The National Railroad Passenger Corporation (Amtrak) operates three primary types of intercity passenger rail services:

1. Higher speed, high frequency, **Northeast Corridor** (NEC) services;
2. **State-Supported**, short distance, corridor service on 29 routes that are located in densely populated regions; and
3. **Long Distance** services on 15 routes greater than 750 miles that connect rural areas and population centers.





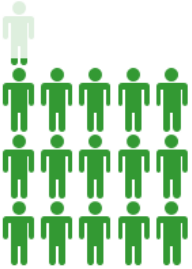







Over the last decade, Amtrak ridership has increased by over 17 percent and Amtrak has made significant strides to improve financial performance and cost recovery. This improvement is borne out by the corporation's FY 2018 performance metrics, which show Amtrak posting record revenue figures of \$3.38 billion and an all-time low operating loss of \$168 million, while carrying over 31.7 million passengers.¹

However, there are still opportunities for further improved performance, particularly as it relates to Amtrak's Long Distance service offerings. The majority of Amtrak's annual operating losses that are subsidized by the Federal Government are attributable to the operation of Long Distance trains (nearly \$550 million in FY 2018). Amtrak's Long Distance routes account for only 14 percent of Amtrak ridership, but 32 percent of train system operating costs, while also suffering from poor on-time performance (OTP) due largely to delays on the freight-owned railroads that

¹ Amtrak, [Amtrak Sets Revenue and Earnings Records Delivers Best Operating Performance in Company History](#), November 16, 2018.

host Long Distance trains (48.6 percent endpoint OTP in FY 2018). Late trains cost Amtrak approximately \$140 million (or 25 percent of the Long Distance train operating loss) in 2008 when on-time performance was at levels similar to where it is heading today.²

Amtrak FY 2018 Ridership, Operating Revenue, Operating Expense by Service Line³

Amtrak Service	Ridership	Operating Revenue	Operating Expense	On-Time Performance
Northeast Corridor				
State-Supported				
Long Distance				

*Ridership icon equals 1 million; revenue/expense icon equals \$100 million; OTP percentage in pie chart

Long Distance Reform Proposal

The FY 2020 President's Budget proposes to begin the process of restructuring Amtrak's Long Distance network, phasing decision-making and cost responsibilities to states. This proposal promotes a market-based, passenger-focused intercity passenger rail network that better meets the transportation demands of the American public. The FY 2020 President's Budget will mark the end of the Federal Government fully-subsidizing Amtrak's Long Distance routes.

² U.S. Department of Transportation, Office of the Inspector General, [Report Number CR-2008-047](#), March 28, 2008

³ Amtrak, [Monthly Performance Report](#), September FY 2018.

Necessary Reforms

- Restructure network route system through collaborative process
- Transfer Amtrak National Network funds for Long Distance operations to Restoration & Enhancement Grants
- Phase in decision-making for service and operations to states

Transformative Outcomes

- Modernize route network to meet market needs of 21st century
- End Federal subsidy of Long Distance train operations after transition period
- Create opportunity for new private sector participants in passenger rail services

To effectuate this important reform, Federal support for Long Distance routes will now be provided through the Restoration and Enhancement Grant program, not Amtrak's annual grant. States are encouraged to apply jointly with Amtrak for this funding in FY 2020 so they can begin to make informed decisions about their routes and the elements they value to continue operating in the future. During this time, the Department of Transportation, Amtrak, states, and affected local governments will collaborate to rationalize the Long Distance network to more efficiently serve modern market needs as a series of shorter-distance, high-performing corridor services.

The Restoration and Enhancement Grant funding will provide transition assistance to states as they assume control over their regional corridor services, covering 100 percent of net operating costs in FY 2020, 80 percent of net operating costs in FY 2021, 60 percent of net operating costs in FY 2022, and 40 percent of net operating costs in FY 2023. The phasing down and out of Federal funds is in recognition that major changes to intercity passenger rail service patterns can take time to build a ridership base and generate sufficient revenues against the service's capital and operating costs. By FY 2024, states will assume full responsibility for all operating costs associated with their new services. States should also look to utilize the Consolidated Rail Infrastructure and Safety Improvements Program for capital improvements that may be required to upgrade services on these new state routes.

Modern, Passenger-Focused Service Offerings

Amtrak's Long Distance network is a relic of the corporation's creation more than 47 years ago, largely serving the same markets today as they did in 1971 when Amtrak relieved freight railroads of their common carrier obligation to provide passenger rail service. The operating and financial performance metrics for these routes illustrate a struggling business model in need of reform. This situation was true when private railroads operated these services prior to Amtrak's creation, and is even more true today.⁴

The fundamental problem with Amtrak's Long Distance network is its inability to meet customer expectations and demand. The existing routes currently serve many promising city pairs and

⁴ The Association of American Railroads estimates freight railroads incurred annual losses of nearly \$850 million in today's dollars for their passenger operations prior to the creation of Amtrak. Association of American Railroads, [Short History of U.S. Freight Railroads](#), May 2018.

only 12% of Long Distance passengers are riding endpoint to endpoint, with most passengers traveling to and from intermediate markets, typically less than 500 miles apart.⁵ The issue with serving these markets via the current Long Distance structure is infrequent service at inconvenient times that is often significantly delayed. Under the best of circumstances, these obstacles are difficult to overcome when operating a service that can span upwards of 2400 miles; ideally scheduled departures/arrivals are impossible for all major markets and minor delays can have compounding effects along the route.

The Department of Transportation and Amtrak are aligned in the belief that the future of intercity passenger rail service should focus on high-performing, regional corridor services connecting markets between 100 and 500 miles apart. Passenger trends on the Amtrak network support this assertion, with ridership on the corridor-based State-Supported and NEC increasing by 16 percent and 22 percent, respectively, over the last decade, versus only 7 percent on Long Distance routes – where ridership has actually declined in recent years.

Improved Governance, Accountability, and Investment

The enactment of the Passenger Rail Investment and Improvement Act (PRIIA) of 2008 and the Fixing America's Surface Transportation Act (FAST) of 2015 significantly changed the nature and relationships by which Amtrak is funded. As a result of this legislation, 23 states and Amtrak developed and implemented cost-allocation policies for the NEC and State-Supported routes, as well as established formal governance bodies to promote mutual cooperation and planning among the respective NEC and State-Supported stakeholders. These achievements have helped to infuse new and increased sources of funding from States and local governments for infrastructure, equipment, and operations on these routes.

The benefits these two service lines have realized as a result of these legislative reforms have also further illustrated the incongruity of the performance and governance of the Long Distance routes. Eliminating the Federal subsidy for Long Distance routes and enabling states to play a larger role in shaping the delivery of these services will improve financial performance and increase accountability over Amtrak and the host freight railroads for the on-time performance of these trains.

In addition to the considerable operating losses incurred annually on the Long Distance network, there is a pending multi-billion dollar need to replace Amtrak's Long Distance equipment, which is well past its useful life. Working with states to rationalize the National Network will allow these funds to instead be invested in services that meet state and regional priorities.

⁵ Comments of the National Railroad Passenger Corporation (Amtrak), [Surface Transportation Board Docket No. EP 726](#), February 8, 2016.

FY 2019 Accomplishments

Anticipated FY 2019 accomplishments for FRA's funding of Amtrak include:

- Continued support of Amtrak's annual capital program to reduce their maintenance backlog and improve infrastructure, equipment, stations, facilities, information technology, and other support services required to provide intercity passenger rail operations.
- Begin testing of next-generation high-speed trainsets for the Acela service on the NEC and ongoing major station improvements at Moynihan Station in New York City, Washington Union Station, Baltimore Penn Station, and New Carrollton Station in Maryland. These projects were financed by the Department's Build America Bureau in 2016 through the Railroad Rehabilitation and Improvement Financing (RRIF) Program.
- Implementation of 5-year asset and service line plans as required by Section 11203 of the FAST Act. Amtrak's asset lines include Transportation, Infrastructure, Equipment, Stations, and National Assets and Corporate Services. These plans complement the 5-year service line plans for NEC Intercity Operations, State-Supported, Long Distance, Infrastructure Access, and Ancillary Services. Asset lines provide resources and deliver transportation and related services to the service lines. The service line and asset line plans help to inform Amtrak's decision-making process and more clearly communicate with the Department, Congress, States, passengers and other partners on Amtrak's business priorities and financial performance.
- Convene stakeholders and begin process to rationalize the National Network to more efficiently serve modern market needs by restructuring as a series of shorter-distance, high-performing corridor services.

The FY 2020 President's Budget requests \$936.4 million for Amtrak, including:

Northeast Corridor (\$325.4 million): The Northeast Corridor is one of the most important transportation assets in the United States. The lifeblood to the regional economy, the NEC carries more than 800,000 people each day on Amtrak and commuter services. Amtrak's NEC train operations account for more than a third of its ridership (12.1 million) and more than 40 percent of its operating revenue (\$1.2 billion).⁶

The FY 2020 President's Budget requests \$325.4 million for Amtrak's Northeast Corridor account to fund the following needs:

- Normalized replacement of NEC infrastructure in order to safely maintain operations;
- Targeted investments in major state of good repair backlog and infrastructure improvement projects;

⁶ Amtrak, [Monthly Performance Report](#), September FY 2018.

- The portion of annual equipment overhauls that the NEC's operating surplus does not cover;
- Principal and interest payments on Amtrak's legacy debt that is attributable to the NEC;
- Information technology and other "backbone" services to support NEC infrastructure and operations;
- Upgrades and repairs to Amtrak-served stations on the NEC, including projects to bring stations into compliance with Americans with Disabilities Act (ADA) requirements;
- Activities of the NEC Commission (\$5 million), which was established by Congress under PRIIA to promote mutual cooperation and planning among NEC states/commuter rail agencies and Amtrak and to manage the implementation of the PRIIA Section 212 cost allocation policy. The NEC Commission is composed of representatives from the eight NEC States and the District of Columbia, Amtrak, and the U.S. Department of Transportation; and
- FRA oversight of Amtrak (\$1.6 million, additional details below under the National Network).

National Network (\$611 million): Statute defines the National Network to include capital, operating, and debt service for Amtrak's State-Supported routes, Long Distance routes, and other activities not allocated to the Northeast Corridor. The \$611 million request would support the following needs:

- Legacy Long Distance Services (\$175 million): The 15 Long Distance routes currently operated by Amtrak serve more than 300 stations in 39 states. For FY 2020, the President's Budget proposes to shift all Federal operating support to the Restoration and Enhancement Grants program – \$550 million – as the Department of Transportation, Amtrak, states, and affected local governments work to restructure the Long Distance network. However, the \$175 million in National Network grant funding requested for FY 2020 will be used to continue providing the capital and debt service funding necessary to operate Long Distance trains during this period of transition.
- State-Supported Services (\$397 million): The 29 State-Supported routes provide corridor service in 18 States. Section 209 of PRIIA required States to be financially responsible for supporting their corridor services, beginning in FY 2014. In FY 2018, States paid Amtrak nearly \$290 million for capital and operating costs associated with State-Supported routes. FRA funding will provide capital assistance for the infrastructure, equipment, stations, and other assets utilized for State-Supported services, as well as the operating costs not covered by PRIIA 209 State payments (\$94 million in FY2018).

An additional \$2 million of National Network funding is set-aside to fund the activities of the State-Supported Route Committee, as authorized by Section 11101(f) of the FAST Act. The State-Supported Route Committee is composed of representatives from the 21 sponsors of State-Supported routes, Amtrak, and FRA. Similar to the NEC Commission, the State-Supported Route Committee was established by Congress to promote mutual cooperation and planning for the State-Supported routes and to manage the implementation of the PRIIA Section 209 cost allocation policy.

- Infrastructure Access (\$35.9 million): While the majority of track over which Amtrak trains operate are owned by other railroads, Amtrak owns some infrastructure outside of the NEC mainline on the National Network. Amtrak-owned or controlled infrastructure on the National Network includes, but is not limited to:
 - 96 miles of the Michigan Line between Kalamazoo, MI - Porter, IN;
 - 103 miles of the Keystone Corridor between Philadelphia - Harrisburg, PA;
 - 61 miles of the Springfield Line between New Haven, CT - Springfield, MA;
 - 94 miles of the Hudson Line owned by CSX and leased to Amtrak between Poughkeepsie, NY - Hoffmans, NY (near Schenectady); and
 - the terminal areas in Chicago, New Orleans, and other locations.

For these Amtrak-owned or controlled infrastructure and facilities, Amtrak is responsible for planning, developing, managing, and providing access to other rail operators (freight and passenger) and public or private entities that use those assets. Unlike on the NEC, National Network revenues are not sufficient to fully cover costs and Federal assistance is required.

- FRA Oversight (\$3 million): During this time of transition for a more efficient Amtrak, maintaining proper oversight is critical. FRA is working to help make Amtrak's financials more transparent through the 5-year service line and asset line plans as required by Section 11203 of the FAST Act. These plans are intended to better inform Amtrak's decision-making process and more clearly communicate with the Department, Congress, States, passengers and other partners on Amtrak's business priorities and financial performance.

In addition, FRA has the responsibility to oversee the delivery of Amtrak's capital program, along with its operating initiatives. Improved project delivery of capital projects to maintain and improve infrastructure, equipment, stations, and systems are essential for Amtrak to improve performance and reduce its reliance on future Federal funding. FRA has a particular interest in ensuring Amtrak enhances its delivery of the Americans with Disabilities Act (ADA) stations program.

Congress directed FRA to oversee Amtrak performance and reform efforts by authorizing 0.5% of Northeast Corridor and National Network appropriation to be dedicated to management oversight of Amtrak.

FRA will also use part of this takedown to begin planning and collaboration efforts among the Department, Amtrak, states and affected local governments to rationalize the National Network. This work is needed to guide and support the development of a rationalized network and to enable the phasing out of Federal operating subsidy for long distance routes. This work is particularly necessary in advance of Amtrak's reauthorization.

What benefits will be provided to the American public through this request and why is the program necessary?

The United States' population is projected to increase by more than 55 million people over the next 25 years. Demand for intercity passenger rail service will continue to grow as the public seeks transportation alternatives to complement our increasingly congested highways and airports. A rationalized Amtrak network focused on operating corridor services that meet state and regional priorities will more efficiently utilize taxpayer funds and be better positioned to serve the markets where the majority of the nation's projected population growth is expected to be concentrated. Through the cost allocation policy developed for the State-Supported routes under Section 209 of PRIIA, States have made a strong financial commitment that affirms the importance of these National Network services and infrastructure to state transportation systems, economies, and communities' quality of life.

Vital Infrastructure –Service disruptions caused by infrastructure failures, rail traffic congestion, and other factors already cost the economy \$500 million per year in lost productivity. A loss of all NEC services for just one day would cost the economy an estimated \$100 million.⁷

Helps Meet Current Travel Demand – More than two times as many people travel through Amtrak's Penn Station in New York every day than through JFK, LaGuardia and Newark airports combined.⁸

Increases Freight Mobility – Approximately 70 freight trains per day use Amtrak-owned or maintained tracks to serve industries, power plants, ports, and other rail shippers or customers throughout the Northeast and in portions of three Midwestern states. The NEC transports 14 million car-miles of freight each year and links seaports with manufacturers to export goods.⁹ Major companies throughout the United States utilize the NEC to access ports in Baltimore and Wilmington to export their products abroad.

Economic Development – In 2014, Amtrak and its passengers generated an economic benefit of approximately \$10.8 billion, which supported 117,200 jobs and generated \$1.7 billion in taxes for Federal, State, and local governments.¹⁰ In addition, station development yields sizable economic benefits including attracting housing and retail development, restored parks and civic and private buildings, an increase in housing and property rental values, and tourism growth. Recent station redevelopment examples include Raleigh, North Carolina and Niagara Falls, New York.

⁷ Northeast Corridor Commission, [NEC Annual Report FY17](#), April 2018.

⁸ Amtrak, [New Passenger Information Displays Improve Customer Experience at Penn Station New York](#), October 11, 2016.

⁹ NEC Commission, [Investing in the Northeast Corridor](#), February 2016.

¹⁰ Amtrak, [FY 2016 Budget and Business Plan](#).

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NORTHEAST CORRIDOR GRANTS TO THE
NATIONAL RAILROAD PASSENGER CORPORATION (69-X-1774)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account

Number: 69-1774-X-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
Obligations by program activity:				
0001	Grants for Northeast Corridor	636,658	637,000	324,000
0002	Management Oversight	940	3,000	2,000
0003	Northeast Corridor Commission	-	5,000	5,000
0004	American with Disabilities Act (ADA) ¹¹	5,092	5,000	-
0900	Total new obligations	642,690	650,000	331,000
Budgetary Resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	3,610	11,000	11,000
1050	Unobligated balance (total)	3,610	11,000	11,000
Appropriations, discretionary:				
1100	Appropriation	650,000	650,000	325,000
1160	Appropriation, discretionary (total)	650,000	650,000	325,000
1930	Total budgetary resources available	653,610	661,000	336,000
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	10,920	11,000	5,000
Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	2,979	3,000	2,000
3010	New obligations, unexpired accounts	642,690	650,000	331,000
3020	Outlays (gross)	(643,190)	(651,000)	(328,000)
3050	Unpaid obligations, end of year	2,479	2,000	5,000
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	2,979	3,000	2,000
3200	Obligated balance, end of year	2,479	2,000	5,000
Budget authority and outlays, net:				
Discretionary:				
4000	Budget authority, gross	650,000	650,000	325,000

¹¹ Due to the reduction in funding, the President's Budget recommends providing more flexibility to determine the appropriate amount for ADA upgrades. This requirement can be handled through FRA's grant agreement with Amtrak.

Account
Number: 69-1774-X-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Outlays, gross:			
4010	Outlays from new discretionary authority	642,690	648,000	324,000
4011	Outlays from discretionary balances	500	3,000	4,000
4020	Outlays, gross (total)	643,190	651,000	328,000
4070	Budget authority, net (discretionary)	650,000	650,000	325,000
4080	Outlays, net (discretionary)	643,190	651,000	328,000
4180	Budget authority, net (total)	650,000	650,000	325,000
4190	Outlays, net (total)	643,190	651,000	328,000

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NATIONAL NETWORK GRANTS TO THE
NATIONAL RAILROAD PASSENGER CORPORATION (69-X-1775)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account

Number: 69-1775-X-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
Obligations by program activity:				
0001	Grants for National Network	1,238,234	1,238,000	606,000
0002	Management Oversight	3,165	5,000	4,000
0003	State-Supported Route Commission	2,849	2,000	2,000
0004	American with Disabilities Act (ADA) ¹²	44,908	45,000	-
0900	Total new obligations	1,289,156	1,290,000	612,000
Budgetary Resources:				
Unobligated balance:				
	Unobligated balance brought forward, Oct 1	5,316	8,000	10,000
	Recoveries of prior year unpaid obligations	4	-	-
	Unobligated balance (total)	5,320	8,000	10,000
Budget authority:				
1100	Appropriation	1,291,600	1,292,000	611,000
1160	Appropriation, discretionary (total)	1,291,600	1,292,000	611,000
1930	Total budgetary resources available	1,296,920	1,300,000	621,000
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	7,764	10,000	9,000
Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	1,211	4,000	3,000
3010	New obligations, unexpired accounts	1,289,156	1,290,000	612,000
3020	Outlays (gross)	(1,285,550)	(1,291,000)	(614,000)
3040	Recoveries of prior-year, unpaid obl.	4	-	-
3050	Unpaid obligations, end of year	4,814	3,000	1,000
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	1,211	4,000	3,000
3200	Obligated balance, end of year	4,814	3,000	1,000

¹² Due to the reduction in funding, the President's Budget recommends providing more flexibility to determine the appropriate amount for ADA upgrades. This requirement can be handled through FRA's grant agreement with Amtrak.

Account
Number: 69-1775-X-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	1,291,600	1,292,000	611,000
	Outlays, gross:			
4010	Outlays from new discretionary authority	1,284,741	1,289,000	609,000
4011	Outlays from discretionary balances	809	2,000	5,000
4020	Outlays, gross (total)	1,285,550	1,291,000	614,000
4070	Budget authority, net (discretionary)	1,291,600	1,292,000	611,000
4080	Outlays, net (discretionary)	1,285,550	1,291,000	614,000
4180	Budget authority, net (total)	1,291,600	1,292,000	611,000
4190	Outlays, net (total)	1,285,550	1,291,000	614,000

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
OPERATING SUBSIDY GRANTS TO AMTRAK (69-X-0121)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account

Number: 69-0121-X-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Obligations by program activity:			
0001	Operating subsidy grants	-	-	-
0900	Total new obligations	-	-	-
	Budgetary Resources:			
	Budget authority:			
	Appropriations, discretionary:			
1100	Appropriation	-	-	-
1930	Total budgetary resources available	-	-	-
	Change in obligated balance:			
3010	New obligations, unexpired accounts	-	-	-
3020	Outlays (gross)	-	-	-
	Budget authority and outlays, net:	-	-	-
	Discretionary:	-	-	-
4000	Budget authority, gross	-	-	-
	Outlays, gross:	-	-	-
4010	Outlays from new discretionary authority	-	-	-
		-	-	-
4070	Budget authority, net (discretionary)	-	-	-
4080	Outlays, net (discretionary)	-	-	-
4180	Budget authority, net (total)	-	-	-
4190	Outlays, net (total)	-	-	-

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
CAPITAL & DEBT SERVICE GRANTS TO THE
NATIONAL RAILROAD PASSENGER CORPORATION (69-X-0125)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account
Number: 69-0125-X-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
Obligations by program activity:				
0002	Capital and Debt Service Grants	2,000	-	-
0005	Grants Oversight	388	3,000	3,000
0006	Northeast Corridor Commission	-	-	-
0007	American Disability Act (ADA)	0	-	-
0900	Total new obligations	2,388	3,000	3,000
Budgetary Resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	12,530	11,000	8,000
1033	Recoveries of prior year paid obligations	49	-	-
1050	Unobligated balance (total)	12,580	11,000	8,000
Budget authority:				
Appropriations, discretionary:				
1160	Appropriation, discretionary (total)	-	-	-
1930	Total budgetary resources available	12,580	11,000	8,000
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	10,193	8,000	5,000
Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	66,731	4,000	3,000
3010	New obligations, unexpired accounts	2,388	3,000	3,000
3020	Outlays (gross)	(64,948)	(4,000)	(2,000)
3050	Unpaid obligations, end of year	4,169	3,000	4,000
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	66,731	4,000	3,000
3200	Obligated balance, end of year	4,169	3,000	4,000
Budget authority and outlays, net:				
Discretionary:				
Outlays, gross:				
4011	Outlays from discretionary balances	64,948	4,000	2,000
4040	Offsets against gross budget authority, outlays	(49)	-	-

Account
Number: 69-0125-X-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
4080	Outlays, net (discretionary)	64,899	4,000	2,000
4180	Budget authority, net (total)	-	-	-
4190	Outlays, net (total)	64,899	4,000	2,000

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION (69-X-0704)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account

Number: 69-0704-X-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Obligations by program activity:			
0007	Capital and Debt Grant Sandy Mitigation	-	-	31,000
0008	FTA Transfer – Hurricane Sandy Disaster Resiliency	-	13,000	-
0900	Total new obligations	-	13,000	31,000
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	45,032	45,000	32,000
1021	Recoveries of prior year unpaid obligations	172	-	-
1050	Unobligated balance (total)	45,204	45,000	32,000
1160	Appropriation, discretionary (total)	-	-	-
1930	Total budgetary resources available	45,204	45,000	32,000
	Memorandum (non-add) entries:			
1941	Unexpired unobligated balance, end of year	45,204	32,000	1,000
	Change in obligated balance:			
	Unpaid obligations:			
3000	Unpaid obligations, brought forward, Oct 1	5,471	-	13,000
3010	New obligations, unexpired accounts	-	13,000	31,000
3020	Outlays (gross)	(5,299)	-	(3,000)
3040	Recoveries of prior year unpaid obligations	(172)		
3050	Unpaid obligations, end of year	-	13,000	41,000
	Memorandum (non-add) entries:			
3100	Obligated balance, start of year	5,471	-	13,000
3200	Obligated balance, end of year	-	13,000	41,000
	Budget authority and outlays, net:			
	Discretionary:			
	Outlays, gross:			
4011	Outlays from discretionary balances	5,299	-	3,000
4080	Outlays, net (discretionary)	5,299	-	3,000
4190	Outlays, net (total)	5,299	-	3,000

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION**

**CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS
APPROPRIATIONS LANGUAGE**

CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS

For necessary expenses related to Consolidated Rail Infrastructure and Safety Improvements Grants, as authorized by section 22907 of title 49, United States Code, \$330,000,000, to remain available until expended: *Provided*, that the Secretary may withhold up to one percent of the amount provided under this heading for the costs of award and project management oversight of grants carried out under section 22907 of title 49, United States Code.

Explanation: The President's Budget is requesting funding for this grant program that is authorized by the FAST Act. Designated funding for PTC is not included in this year's request.

EXHIBIT III-1
CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
(\$000)

	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST	CHANGE FY 2019- 2020
Consolidated Rail Infrastructure and Safety Improvements	592,547	592,547	255,000	330,000	75,000
TOTAL	<u>592,547</u>	<u>592,547</u>	<u>255,000</u>	<u>330,000</u>	<u>75,000</u>
FTEs	-	-	-	-	-

Program and Performance Statement

The Consolidated Rail Infrastructure and Safety Improvements program was authorized by Congress to improve the safety, efficiency, and reliability of passenger and freight rail systems. Eligible activities include a wide range of freight and passenger rail capital, safety technology deployment, planning, environmental analyses, research, workforce development, and training projects. Eligible recipients include states, local governments, Class II and Class III railroads, Amtrak and other intercity passenger rail operators, rail carriers and equipment manufacturers that partner with an eligible public-sector applicant, the Transportation Research Board, University Transportation Centers, and non-profit rail labor organizations.

EXHIBIT III-1a

**CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS
SUMMARY ANALYSIS OF CHANGE FROM FY 2019 TO FY 2020
Appropriations, Obligations, Limitations, and Exempt Obligations
(\$000)**

	<u>\$000</u>	<u>FTE</u>
FY 2019 ENACTED	255,000	-
	<u>Change from FY 2019 to FY 2020</u>	
NEW OR EXPANDED PROGRAMS		
Consolidated Rail Infrastructure and Safety Improvements	75,000	-
SUBTOTAL, NEW OR EXPANDED PROGRAMS	75,000	-
FY 2020 REQUEST	330,000	-

DETAILED JUSTIFICATION FOR CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS

FY 2020 – Consolidated Rail Infrastructure and Safety Improvements - Budget Request \$000

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request	Difference from FY 2019
Consolidated Rail Infrastructure and Safety Improvements	592,547	592,547	255,000	330,000	75,000
TOTAL	592,547	592,547	255,000	330,000	75,000

What is this program and what does this funding level support?

The Consolidated Rail Infrastructure and Safety Improvements program provides a comprehensive solution to leverage private, state and local investments to support safety enhancements and general improvements to infrastructure for both intercity passenger and freight railroads. The FY 2020 President’s Budget requests \$330 million for the Department of Transportation to invest in projects within the United States to improve railroad safety, efficiency, and reliability; mitigate congestion at both intercity passenger and freight rail chokepoints; enhance multi-modal connections; and lead to new or substantially improved intercity passenger rail corridors.

The requested funding will also support critical rail safety projects – such as grade crossing enhancements, rail line relocation, and the continued implementation and improvement of positive train control systems – and assist resource-constrained short line railroads. Other eligible activities include rail planning and environmental analyses, rail research and technology initiatives, and workforce development and training activities intended to advance America’s rail industry.

The Consolidated Rail Infrastructure and Safety Improvements program also aligns with the Department of Transportation’s commitment to address the unmet transportation infrastructure needs of rural areas. . Investment is necessary to grow rural economies, facilitate freight movement, improve access to reliable and affordable transportation options and enhance health access and safety for residents. As authorized by the FAST Act, at least 25 percent of the \$330 million requested will be dedicated to projects in rural areas.

U.S. Rail System



The majority of both freight and intercity passenger rail services operate over privately-owned infrastructure, which enables robust private investment that generates significant public benefits. Given the multiple private and public sector stakeholders and benefits associated with rail projects, the Consolidated Rail Infrastructure and Safety Improvements program is well-positioned to attract increased non-Federal matching shares from project partners. As authorized by the FAST Act, while the minimum non-Federal share of projects costs is 20 percent, preference will be given to projects with at least a 50 percent non-Federal match.

Examples of potential safety and infrastructure projects that could be funded from this grant program include:

Freight Rail Congestion and Fluidity Improvements - There are a number of key chokepoints on the U.S. rail network where heavy volumes or a confluence of freight and passenger trains introduce critical mobility delays, which can have far-reaching effects on both shippers and passengers across the rail network including in Chicago, St. Louis and Northern Virginia, as illustrative examples.

Grade Crossing Enhancements - Improving safety at the more than 130,000 public highway-rail at-grade crossings in the United States is a top FRA priority. Each crossing represents a potential collision location between a train and motor vehicle, and the risk of highway-rail grade crossing incidents is likely to grow as future train and highway traffic increases. Highway-rail grade crossing collisions and trespasser deaths account for approximately 95 percent of rail-related fatalities.

Positive Train Control (PTC) - Since originally mandated by Congress in 2008, the railroad industry and its partners have been working to implement PTC on the 60,000 route-miles of required routes. PTC refers to an integrated set of advanced technologies, that when fully and properly configured, can prevent certain accidents caused by human factors including (1) train-to-train collisions; (2) over-speed derailments; (3) incursions into established work zones; and (4) the movement of a train through a switch left in the wrong position. Class I railroads, Amtrak, commuter railroads and short line railroads all share responsibility for implementing PTC on their systems. In 2018, FRA issued two Notices of Funding Opportunity for \$250 million in PTC funding and selected 39 system deployment projects. Congress has allowed railroads to apply for up to a two-year extension (December 31, 2020) to achieve full PTC implementation if certain criteria are met. The railroad must have had all spectrum acquired and hardware installation completed by the end of 2018 for an alternative schedule to be considered.

Class II and III (Short line) Railroad Investments - In addition to the 7 major Class I railroads, there are more than 600 smaller regional and short line railroads that comprise the U.S. freight rail network. These short line railroads play a vital role in the U.S. transportation system, often providing the first- and last-mile connections to the Class I network for freight shippers and customers. However, unlike the Class I railroads, many short line railroads lack the capital funding necessary to invest in improvements to their infrastructure and equipment. FRA estimates that a nearly \$7 billion funding gap exists to address the current and near-term capital needs of Class II and Class III short line railroads.¹

Although Congress created the Railroad Rehabilitation & Improvement Financing (RRIF) loan program in part to assist Class II and Class III railroads², many short line railroads lack the resources necessary to cover RRIF application fees and credit risk premium costs or struggle to meet Federal and private market credit worthiness thresholds. As such, other funding assistance is required to help short lines upgrade their tracks to accommodate modern 286,000-pound rail cars, repair or upgrade aging bridges, and renew or replace rolling stock and equipment.

Passenger Rail Corridor Development - In recent years, states and other project sponsors have advanced over \$1 billion in pre-construction planning, environmental, and engineering/design studies, which has established a \$100 billion pipeline of corridors and projects that are now ready for construction. Completion of these corridors will introduce significant service enhancements on existing corridors and introduce new services in across the country. Additionally, as the FY 2020 President's Budget proposes to begin restructuring Amtrak's Long Distance routes and transferring cost and decision-making responsibilities to states, states are encouraged to utilize Consolidated Rail Infrastructure and Safety Improvements funds to support the capital needs on their new corridors.

These are just a sample of the types of projects that this funding could support.

¹ FRA, [Summary of Class II and Class III Railroad Capital Needs and Funding Sources](#), October 2014.

² By statute, up to \$7 billion of the \$35 billion RRIF portfolio is reserved for short line railroads.

FY 2019 Accomplishments

Anticipated FY 2019 accomplishments for the Consolidated Rail Infrastructure and Safety Improvements program includes obligating prior year program funding provided by Congress and providing technical assistance to grantees and prospective applicants.

What benefits will be provided to the American public through this request and why is the program necessary?

Our nation's rail network is a critical component of the U.S. transportation system and economy and has been for over 185 years, carrying over 31.7 million passengers on Amtrak services³ and more than 1.6 billion tons of freight valued at nearly \$600 billion each year.⁴ The Consolidated Rail Infrastructure and Safety Improvements program will enhance rail safety, relieve congestion, renew infrastructure, and increase our nation's mobility as the U.S. freight and passenger rail system are called upon to meet the demands of a growing population. In addition, high capacity mobility improvements can be made within a relatively small, and in many cases an existing, geographic footprint.

Increased Safety - According to a recent report by the OneRail Coalition, riding intercity passenger rail or commuter rail is on average 10 times safer than riding in a passenger car. Looking at freight accidents, fatal accidents involving freight rail take place at less than one-third the rate of truck accidents. Accidents involving injuries are one-fifth as frequent, and property damage accidents are 62 times less frequent.⁵ However, opportunities exist to further improve the safety of the rail network.

Reduced Congestion and Increased Mobility - Each American requires the movement of approximately 40 tons of freight per year across the freight network and approximately 85,000 passengers per day ride intercity trains. In addition to its intercity riders, the Northeast Corridor supports more than 700,000 commuter rail passengers per day. By 2045, the U.S. freight system is projected to experience a nearly 40 percent increase in the total amount of tonnage it moves, with the rail share expected to increase by 24 percent.⁶ Over this same timeframe, U.S. population is anticipated to grow by over 20 percent. Passenger and freight rail transportation must play a critical role in accommodating this projected growth and provide an alternative to the nation's increasingly congested airports and highways.

Energy Efficient – The United States uses more than 14 million barrels of petroleum products every day for transportation, representing 70 percent of the nation's petroleum usage.⁷ On average, rail transportation is four times more fuel efficient than trucks. In 2017, U.S. railroads moved a ton of freight an average of 479 miles per gallon of fuel.⁸

³ Amtrak, [Monthly Performance Report](#), September FY 2018.

⁴ Federal Highway Administration, [2016 Freight Quick Facts Report](#), September 2016.

⁵ OneRail, [Rail Safety in the United States](#), 2016.

⁶ U.S. DOT, [Beyond Traffic 2045](#), January 2017.

⁷ U.S. Energy Information Administration, [Monthly Energy Review](#), January 2019.

⁸ Association of American Railroads, [Overview of America's Freight Railroads](#), January 2019.

Leverages Private Sector Investment – Rail is uniquely suited to leverage private sector investment since private freight rail infrastructure serves as the backbone for much of the nation’s passenger rail system.

FEDERAL RAILROAD ADMINISTRATION
CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS (69-X-2811)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)

Account

Number: 69-2811-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
Obligations by program activity:				
0001	Consolidated Rail Infrastructure and Safety Improvements Grants	-	194,000	233,000
0002	Consolidated Rail Infrastructure and Safety Improvements Oversight	46	2,000	2,000
0900	Total new obligations	46	196,000	235,000
Budgetary Resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	68,000	661,000	991,000
1010	Unobligated balance transfer to other accts [069-2812]	-	(67,000)	-
1050	Unobligated balance (total)	68,000	594,000	991,000
Budget authority:				
Appropriations, discretionary:				
1100	Appropriation	592,547	593,000	330,000
1160	Appropriation, disc (total)	592,547	593,000	330,000
1930	Total budgetary resources available	660,547	1,187,000	1,321,000
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	660,501	991,000	1,086,000
Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	-	-	196,000
3010	Obligations incurred, unexpired accounts	46	196,000	235,000
3020	Outlays (gross)	-	-	(49,000)
3050	Unpaid obligations, end of year (gross)	46	196,000	382,000
Memorandum (non-add) entries:				
3100	Obligated balance, start of year (net)	-	-	196,000
3200	Obligated balance, end of year	46	196,000	382,000
Budget authority and outlays, net:				
Discretionary:				
4000	Budget authority, gross	592,547	593,000	330,000

Account
Number: 69-2811-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Outlays, gross:			
4011	Outlays from discretionary balances	-	-	49,000
4070	Budget authority, net (discretionary)	592,547	593,000	330,000
4080	Outlays, net (discretionary)	-	-	49,000
4180	Budget authority, net (total)	592,547	593,000	330,000
4190	Outlays, net (total)	-	-	49,000

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION**

**RESTORATION AND ENHANCEMENT GRANTS
APPROPRIATIONS LANGUAGE**

RESTORATION AND ENHANCEMENT GRANTS

For necessary expenses related to Restoration and Enhancement Grants, as authorized by section 22908 of title 49, United States Code, \$550,000,000, to remain available until expended: Provided, That the Secretary may withhold up to one percent of the amount provided under this heading for the costs of award and project management oversight of grants carried out under section 22908 of title 49, United States Code: *Provided further*, That grants made with amounts provided under this heading are in addition to the limitation in section 22908(e)(2) of title 49, United States Code; *Provided further*, That grants made with amounts provided under this heading are not subject to the limitations of section 22908(e)(1) or (3) of title 49, United States Code: *Provided further*, That amounts provided under this heading are for Federal operating assistance grants to support restructuring long-distance routes as defined under section 24102 (5) of title 49, United States Code and are not limited to the initiation, restoration or enhancement of intercity rail passenger transportation: *Provided further*, That no route may receive more than 4 years of funding under this heading and such funding may not be renewed; *Provided further*, That such grants may not exceed 100 percent of the projected net operating costs for the first year of service; 80 percent of projected net operating costs for the second year of service; 60 percent of the projected net operating costs for the third year of service; and 40 percent of the projected net operating costs for the fourth year of service.

Explanation: The President's Budget is requesting funding for the Restoration and Enhancement grant program to support operating costs of long distance routes of the National Railroad Passenger Corporation (Amtrak) in coordination with a proposal to restructure Amtrak's long distance routes. The Restoration and Enhancement grant program was authorized by the FAST Act. For funds that will be available for purposes of restructuring Amtrak's long distance network, the language above removes the authorized limit on the number of simultaneously active grants, extends the authorized maximum grant duration from 3 to 4 years, and now permits 100% of net operating costs (i.e. operating losses) to be funded in the first year of service.

EXHIBIT III-1
RESTORATION AND ENHANCEMENT GRANTS
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
(\$000)

	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST	CHANGE FY 2019- 2020
Restoration and Enhancement Grants	20,000	20,000	5,000	550,000	545,000
TOTAL	<u>20,000</u>	<u>20,000</u>	<u>5,000</u>	<u>550,000</u>	<u>545,000</u>
FTEs	-	-	-	-	-

Program and Performance Statement

The Restoration and Enhancement Grants program was authorized by Congress to provide operating assistance to initiate, restore, or enhance intercity passenger rail transportation. The FY 2020 President's Budget proposes to utilize the Restoration and Enhancement Grants program to provide the Federal operating subsidy for Amtrak's Long Distance routes that has previously been allocated under Amtrak's National Network grant. FY 2020 will serve as the last year of the Federal Government fully-subsidizing operating costs on these routes as the Department, Amtrak and states begin the process to restructure the long distance network. States are encouraged to apply jointly with Amtrak for these funds in FY 2020.

EXHIBIT III-1a

**RESTORATION AND ENHANCEMENT GRANTS
SUMMARY ANALYSIS OF CHANGE FROM FY 2019 TO FY 2020
Appropriations, Obligations, Limitations, and Exempt Obligations
(\$000)**

	<u>\$000</u>	<u>FTE</u>
FY 2019 ENACTED	5,000	-
	<u>Change from FY 2019 to FY 2020</u>	
NEW OR EXPANDED PROGRAMS:		
Restoration and Enhancement Grants	545,000	-
SUBTOTAL, NEW OR EXPANDED PROGRAMS	545,000	-
FY 2020 REQUEST	550,000	-

DETAILED JUSTIFICATION FOR RESTORATION AND ENHANCEMENT GRANTS

FY 2020 – Restoration and Enhancement Grants - Budget Request \$000

Program Activity	FY 2018 Actual	FY 2019 Annualize d CR	FY 2019 Enacted	FY 2020 Request	Difference from FY 2019
Restoration and Enhancement Grants	20,000	20,000	5,000	550,00	545,000
TOTAL	20,000	20,000	5,000	550,000	545,000

What is this program and what does this funding level support?

The FY 2020 President's Budget proposes to begin restructuring Amtrak's Long Distance network, phasing decision-making and cost responsibilities to states. Amtrak's 15 Long Distance trains serve only 4.5 million of Amtrak's 31.7 million annual passengers, lose nearly \$550 million annually, suffer from poor on-time performance, and generally provide inefficient service to the traveling public.

Amtrak Long Distance Routes



The FY 2020 President's Budget requests \$550 million under the Restoration and Enhancement Grants program for the portion of Amtrak's annual operating losses that are attributable to the operation of Long Distance trains. These funds have historically been provided under Amtrak's annual grants appropriated by Congress. Shifting these funds to the Restoration and Enhancement Grants program signifies a new approach to be embarked upon by the Department of Transportation, Amtrak, states, and other stakeholders to restructure the Long Distance network to better serve the market demands of the 21st century. The Department and Amtrak are aligned in the belief that the future of intercity passenger rail service should focus on high-performing, regional corridor services connecting markets between 100 and 500 miles apart.

Over the next four years, Long Distance operating costs and decision-making responsibilities will be transitioned to states. To allow Amtrak and states to begin preparing for this transition, the Federal Government will continue to cover 100 percent of the net operating costs for Long Distance routes in FY 2020 through the Restoration and Enhancement Grants program. Following the intent of the Restoration and Enhancement Grants program as authorized by Congress, the program will cover 80 percent of net operating costs in FY 2021, 60 percent of net operating costs in FY 2022, and 40 percent of net operating costs in FY 2023. By FY 2024, states will assume full responsibility for all operating costs associated with their new services. States are encouraged to apply jointly with Amtrak for this funding in FY 2020 so they can begin to make informed decisions about their routes and the elements they value to continue operating in the future. During this timeframe, affected stakeholders will work together to determine the future state of the National Network, to be focused on shorter-distance, regional corridors that provide a more competitive service.

FY 2019 Accomplishments

Anticipated FY 2019 accomplishments for Restoration and Enhancement Grants funding include obligating prior year program funding provided by Congress to initiate, restore, or enhance intercity passenger rail transportation. The Department of Transportation will also begin a dialogue with Amtrak, states, and affected local governments to efficiently restructure the existing Long Distance network to meet their transportation priorities.

What benefits will be provided to the American public through this request and why is the program necessary?

As described in detail in the Amtrak section of the FY 2020 President's Budget, Amtrak's existing Long Distance network presents a significant barrier for growth and future success for the company and intercity passenger rail in general. Intercity passenger rail is most effective when connecting communities that are within 100 to 500 miles from one another, and when individual corridors connect to form integrated regional networks that enhance ridership and financial performance.

The substantial Federal resources required to operate the existing Long Distance network – nearly \$550 million in annual operating costs, hundreds of millions of dollars annually for capital

maintenance and upgrades, and a looming multi-billion dollar equipment replacement need – do not provide a justifiable return on investment. Rationalizing the Amtrak network will result in higher-performing services based on market demands and state/regional priorities that provide more relevant transportation choices to passengers.

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RESTORATION AND ENHANCEMENT GRANTS (69-X-0127)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account
Number: 69-0127-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
Obligations by program activity:				
0001	Restoration and Enhancement Grants	-	-	25,000
0002	Restoration and Enhancement Oversight	2	-	4,000
0003	Amtrak Long Distance Routes Restructuring	-	-	546,000
0900	Total new obligations	2	-	575,000
Budgetary resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	5,000	25,000	45,000
1050	Unobligated balance (total)	5,000	25,000	45,000
Budget authority:				
Appropriations, discretionary:				
1100	Appropriation	20,000	20,000	550,000
1160	Appropriation, disc (total)	20,000	20,000	550,000
1930	Total budgetary resources available	25,000	45,000	595,000
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	24,998	45,000	20,000
Change in obligated balance:				
3000	Unpaid obligations, brought forward, Oct 1	-	-	-
3010	Obligations incurred, unexpired accounts	2	-	575,000
3020	Outlays	-	-	(550,000)
3050	Unpaid obligations, end of year (gross)	2	-	25,000
Memorandum (non-add) entries:				
3100	Obligated balance, start of year (net)	-	-	-
3200	Obligated balance, end of year	2	-	25,000
Budget authority and outlays, net:				
Discretionary:				
4000	Budget authority, gross	20,000	20,000	550,000
4010	Outlays from new discretionary authority	-	-	550,000
4070	Budget authority, net (discretionary)	20,000	20,000	550,000

Account

Number: 69-0127-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
4080	Outlays, net (discretionary)	-	-	550,000
4180	Budget authority, net (total)	20,000	20,000	550,000
4190	Outlays, net (total)	-	-	550,000

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION**

**RAILROAD REHABILITATION AND IMPROVEMENT FINANCING PROGRAM
APPROPRIATIONS LANGUAGE**

RAILROAD REHABILITATION AND IMPROVEMENT FINANCING PROGRAM

The Secretary of Transportation is authorized to issue direct loans and loan guarantees pursuant to sections 501 through 504 of the Railroad Revitalization and Regulatory Reform Act of 1976 (Public Law 94–210), as amended, such authority to exist as long as any such direct loan or loan guarantee is outstanding.

Explanation: No funds are being requested in FY 2020 for this account.

EXHIBIT III-1
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING PROGRAM
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
(\$000)

	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST	CHANGE FY 2019- 2020
Railroad Rehabilitation and Improvement Financing Program	25,000	25,000	17,000	-	(17,000)
TOTAL	<u>25,000</u>	<u>25,000</u>	<u>17,000</u>	<u>-</u>	<u>(17,000)</u>
FTEs	-	-	-	-	-

Program and Performance Statement

The Transportation Equity Act of the 21st Century of 1998 established the Railroad Rehabilitation and Improvement Financing (RRIF) loan and loan guarantee program. The Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2005: A Legacy for Users, changed the program to allow FRA to issue direct loan and loan guarantees up to \$35,000,000,000, and it required that no less than \$7,000,000,000 be reserved for projects primarily benefiting freight railroads other than Class I carriers. The program was expanded by the Rail Safety Improvement Act of 2008 and again by the Fixing America's Surface Transportation Act in 2015. Loans may be used: (1) to acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, components of track, bridges, yards, buildings, or shops; (2) to refinance debt; (3) to develop and establish new intermodal or railroad facilities, (4) to reimburse related planning and design expenses; (5) finance (by December 2019) certain economic development related to passenger rail stations.

For FY 2016, \$1.96 million was appropriated to assist Class II and Class III railroads in covering RRIF loan application expenses. In FY 2018, \$25 million was appropriated for credit risk premiums, or the cost of loan modifications, with an additional \$17 million being appropriated in FY 2019 for a similar purpose. No new funds are requested for this account for FY 2020.

EXHIBIT III-1a

**RAILROAD REHABILITATION AND IMPROVEMENT FINANCING PROGRAM
SUMMARY ANALYSIS OF CHANGE FROM FY 2019 TO FY 2020
Appropriations, Obligations, Limitations, and Exempt Obligations
(\$000)**

	<u>\$000</u>	<u>FTE</u>
FY 2019 ENACTED	17,000	-
	<u>Change from FY 2019 to FY 2020</u>	
<u>ITEM</u>		
PROGRAM REDUCTIONS		
Credit Risk Premiums	(17,000)	
SUBTOTAL, PROGRAM REDUCTIONS	(17,000)	-
FY 2020 REQUEST	-	-

DETAILED JUSTIFICATION RAILROAD REHABILITATION AND IMPROVEMENT FINANCING PROGRAM

FY 2020 – Railroad Rehabilitation and Improvement Financing – Budget Request \$000

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request	Difference from FY 2019
Railroad Rehabilitation and Improvement Financing	25,000	25,000	17,000	-	(17,000)
TOTAL	25,000	25,000	17,000	-	(17,000)

What is this program and what does this funding level support?

The RRIF program is authorized to provide direct loans or loan guarantees up to \$35 billion of which \$7 billion is reserved for projects benefiting freight railroads other than Class I carriers. As of February 12, 2019, \$6 billion in direct loans have been provided under the RRIF program.

RRIF loans may be used to:

- Acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, components of track, bridges, yards, buildings and shops, and costs related to these activities, including pre-construction costs;
- Refinance outstanding debt incurred for the purposes listed above;
- Develop or establish new intermodal or railroad facilities;
- Reimburse planning and design expenses related to the activities described above;
- Finance economic development, including commercial and residential development, and related infrastructure in certain circumstances (available through December 4, 2019.)

The program gives priority to projects that provide public benefits, including benefits to public safety, economic development and competitiveness in international markets, the environment, and transit-oriented development. In providing financial assistance through RRIF, the Department must fulfill its obligations under the National Environmental Policy Act and related laws, regulations, and orders.

The program serves a number of goals in the interest of increasing overall investment in the nation's network of rail infrastructure. Recently, the program has supported innovative projects such as the rail-component of Denver Union Station, critical safety investments like the New York Metropolitan Transportation Authority's work to comply with positive train control, and the procurement of next-generation high-speed trainsets for Amtrak's Acela service on the Northeast Corridor.

In early FY 2019, the Department closed two loans: (1) Port of Everett in the amount of \$5.95 million and (2) Dallas Area Rapid Transit in the amount of \$908 million. Currently, the Department is evaluating three RRIF applications seeking a total of \$4.14 billion in financial assistance, with several additional potential RRIF applications in the pipeline.

Eligible applicants include government sponsored authorities and corporations, railroads, and other joint ventures with eligible applicants. Direct loans can be made for up to one hundred percent of the total project cost, for terms up to 35 years beyond substantial completion of the project, and at an interest rate not less than the cost of borrowing for a comparable term based on the current Treasury rate at the time of closing.

What benefits will be provided to the American public through this request and why is the program necessary?

The RRIF program is necessary to provide financing for rail projects that would not otherwise be funded through the private markets. For example, many short line railroads lack the capital funding necessary to invest in improvements to their infrastructure and equipment, and cannot easily access long-term financing from private financial institutions. FRA's 2014 study on the capital investment needs of Class II and Class III railroads found that a nearly \$7 billion funding gap exists to address these railroads' current and near-term capital needs.¹

Private sector loans with favorable rates are typically only available on short term loans. Short line railroads need long-term loans to support track and structure upgrades that will enjoy useful lives of 20 to 30 years. Given the greater risk of longer term repayments, these loans carry a much higher interest rate. The cost to upgrade and repair a rail line is expensive, but necessary, to avoid safety-related speed reductions and derailments. Of the 39 loans FRA has made since 2002, 15 were for less than \$10 million.

Likewise, the program has funded major safety investments and forward-leaning projects. In FY 2016, the Department issued its largest-ever loan, \$2.45 billion, to assist Amtrak in procuring 28 next-generation high-speed trainsets for the Acela service on the Northeast Corridor and undertaking major station improvements at Moynihan Station in New York City, Washington Union Station, Baltimore Penn Station, and New Carrollton Station in Maryland. These improvements will enable Amtrak to increase capacity and service levels to meet rising demand and improve the safety and reliability of service.

Additionally, in FY 2015, the Department issued a \$967 million loan to the New York Metropolitan Transportation Authority, the nation's largest commuter rail service provider, for deployment of positive train control, which is a requirement that most commuter railroads and short line railroad cannot accommodate in their annual capital budgets. Similarly, the Massachusetts Bay Transportation Authority also received a \$220 million loan in FY 2018 for implementation of positive train control technology and associated supporting infrastructure. In another example, the program was part of the financing package for the innovative Denver

¹ FRA, [Summary of Class II and Class III Railroad Capital Needs and Funding Sources](#), October 2014.

Union Station project, which combined multiple sources of public and private funds to promote livability and provide environmental, social, and economic benefits to the Denver region.

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION IMPROVEMENT FUND
PROGRAM ACCOUNT (69-0750)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account
Number 69-0750-0-3-401

Line	Line Title	2018 ACT	2019 CY	2020 BY
Obligations by program activity:				
0001	Rounding Amount	-	-	-
	Credit program obligations:			
0705	Reestimates of direct loan subsidy	22,772	51,000	
0706	Interest on reestimates of direct loan subsidy	77,599	10,000	-
0709	Administrative expenses	306	1,000	-
0791	Direct program activities, subtotal	100,677	62,000	-
0900	Total new obligations	100,677	62,000	-
Budgetary resources:				
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	1,163	25,000	49,000
1001	Discretionary unobligated balance brought fwd, Oct 1	1,163	25,000	49,000
1050	Unobligated balance (total)	1,163	1,000	49,000
	Budget authority:			
	Appropriations, discretionary:			
1100	Appropriation	25,000	25,000	-
1160	Appropriation, discretionary (total)	25,000	25,000	-
	Appropriations, mandatory:			
1200	Appropriation	100,371	61,000	-
1260	Appropriations, mandatory (total)	100,371	61,000	-
1900	Budget authority (total)	125,371	86,000	-
1930	Total budgetary resources available	126,534	111,000	49,000
	Memorandum (non-add) entries:			
1941	Unexpired unobligated balance, end of year	25,857	49,000	49,000
Change in obligated balance:				
	Unpaid obligations:			
3000	Unpaid obligations, brought forward, Oct 1	710	2,000	3,000

Account
Number 69-0750-0-3-401

Line	Line Title	2018 ACT	2019 CY	2020 BY
3010	New obligations, unexpired accounts	100,677	62,000	-
3020	Outlays (gross)	(100,845)	(61,000)	(1,000)
3050	Unpaid obligations, end of year	542	3,000	2,000
	Memorandum (non-add) entries:			
3100	Obligated balance, start of year	710	2,000	3,000
3200	Obligated balance, end of year	542	3,000	2,000
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	25,000	25,000	-
	Outlays, gross:			
4010	Outlays from new discretionary authority	-	-	-
4011	Outlays from discretionary balances	474	-	1,000
4020	Outlays, gross (total)	474	-	1,000
4070	Budget authority, net (discretionary)	25,000	25,000	-
4080	Outlays, net (discretionary)	474	-	1,000
	Mandatory:			
4090	Budget authority, gross	100,371	61,000	-
	Outlays, gross:			
4100	Outlays from new mandatory authority	100,371	61,000	-
4160	Budget authority, net (mandatory)	100,371	61,000	-
4170	Outlays, net (mandatory)	100,371	61,000	-
4180	Budget authority, net (total)	125,371	86,000	-
4190	Outlays, net (total)	100,845	61,000	1,000

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION IMPROVEMENT FUND
FINANCING ACCOUNT (69-4420)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account
Number 69-4420-0-3-401

Line	Line Title	2018 ACT	2019 CY	2020 BY
Obligations by program activity:				
Credit program obligations:				
0710	Direct loan obligations	220,000	600,000	600,000
0713	Payment of interest to Treasury	20,207	20,000	38,000
0715	Credit Risk Premium Repayment	-	4,000	-
0740	Negative Subsidy Obligations	-	-	-
0742	Downward reestimates paid to receipt accounts	66,598	2,000	-
0743	Interest on Downward reestimates	381	1,000	-
0900	Total new obligations, unexpired accounts	307,186	627,000	638,000
Budgetary resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	45,988	55,000	122,000
1021	Recoveries of prior year unpaid obligations	134,565	-	-
1050	Unobligated balance (total)	180,552	55,000	122,000
Financing Authority:				
Borrowing Authority, Mandatory:				
1400	Borrowing Authority	156,922	600,000	600,000
1440	Borrowing Authority, Mandatory (total)	156,922	600,000	600,000
Spending Authority from Offsetting collections, mandatory:				
1800 01	Offsetting Collections (interest on uninvested funds)	3,553	3,000	3,000
1800 02	Offsetting Collections (principal-borrowers)	79,191	20,000	60,000
1800 03	Offsetting Collections (upward reestimate)	100,371	61,000	-
1800 04	Offsetting Collections (interest-borrowers)	12,013	13,000	27,000
1800 05	Collected	-	10,000	10,000
1800 06	Offsetting Collections (capitalized interest)	2,234	-	-
1825	Spending Authority from Offsetting Collections applied to repay debt	(173,495)	(13,000)	(62,000)
1850	Spending auth from offsetting collections, mand (total)	23,867	94,000	38,000
1900	Budget Authority (total)	180,789	694,000	638,000

Account
Number 69-4420-0-3-401

		2018	2019	2020
Line	Line Title	ACT	CY	BY
1930	Total budgetary resources available	361,341	749,000	760,000
	Memorandum (non-add) entries:			
1941	Unexpired Unobligated balance, end of year	54,155	122,000	122,000
	Change in obligated balance:			
	Unpaid obligations:			
3000	Unpaid obligations, brought forward, Oct 1	3,286,346	3,371,000	3,362,000
3010	New obligations, unexpired accounts	307,186	627,000	638,000
3020	Outlays (gross)	(87,186)	(636,000)	(636,000)
3040	Recoveries of prior year unpaid obligations, unexpired	(134,565)	-	-
3050	Unpaid Obligations, end of year	3,371,781	3,362,000	3,364,000
	Memorandum (non-add) entries:			
3100	Obligated balance, start of year	3,286,346	3,371,000	3,362,000
3200	Obligated balance, end of year	3,371,781	3,362,000	3,364,000
	Financing authority and disbursements, net:			
	Mandatory:			
4090	Budget authority, gross	180,789	746,000	638,000
	Financing disbursements:			
4110	Outlays, gross (total)	87,186	636,000	636,000
	Offsets against gross financing authority and disbursements:			
	Offsetting Collections (collected) from:			
4120	Federal sources	(100,371)	(61,000)	-
4122	Interest on uninvested funds	(3,553)	(3,000)	(3,000)
4123 01	Credit Risk Premium	-	(10,000)	(10,000)
4123 02	Principal Repayment	(79,191)	(20,000)	(60,000)
4123 03	Interest Repayment	(12,013)	(13,000)	(27,000)
4123 04	Capitalized Interest	(2,234)	-	-
4130	Offsets against gross budget authority and outlays	(197,362)	(107,000)	(100,000)
4160	Budget Authority, net (mandatory)	(16,573)	587,000	538,000
4170	Outlays, net (mandatory)	(110,176)	529,000	536,000
4180	Budget Authority, net (total)	(16,573)	587,000	538,000
4190	Outlays, net (total)	(110,176)	529,000	536,000

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NORTHEAST CORRIDOR IMPROVEMENT PROGRAM (69-X-0123)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account

Number: 69-0123-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Obligations by program activity:			
0001	Northeast Corridor Improvement Program	19,037	1,000	-
0900	Total new obligations	19,037	1,000	-
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	20,163	1,000	-
1050	Unobligated balance (total)	20,163	1,000	-
	Budget authority:			
	Appropriations, discretionary:			
1100	Appropriation	-	-	-
1160	Appropriation, disc (total)	-	-	-
1930	Total budgetary resources available	20,163	1,000	-
	Memorandum (non-add) entries:			
1941	Unexpired unobligated balance, end of year	1,126	-	-
	Change in obligated balance:			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	-	19,000	14,000
3010	Obligations incurred, unexpired accounts	19,037	1,000	-
3020	Outlays (gross)	-	(6,000)	(7,000)
3050	Unpaid obligations, end of year (gross)	19,037	14,000	7,000
3100	Obligated balance, start of year (net)	-	19,000	14,000
3200	Obligated balance, end of year	19,037	14,000	7,000
	Budget authority and outlays, net:			
	Discretionary:			
	Outlays, gross:			
4011	Outlays from discretionary balances	-	6,000	7,000
4080	Outlays, net (discretionary)	-	6,000	7,000
4180	Budget authority, net (Disc. And Mand.)	-	-	-
4190	Outlays, net (total)	-	6,000	7,000

Program and Performance Statement

Prior to FY 2001, this program provided funds to continue the upgrade of passenger rail service in the corridor between Washington, District of Columbia and Boston, Massachusetts. For FY 2016, \$19 million was appropriated for grants to Amtrak for shared use infrastructure on the Northeast Corridor identified in the Northeast Corridor Infrastructure and Operations Advisory Commission's 5-year capital plan.

No new funds are requested for this account for FY 2020.

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY TECHNOLOGY (69-X-0701)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account

Number: 69-0701-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Obligations by program activity:			
0001	Railroad Safety Technology Program	-	-	-
0900	Total new obligations	-	-	-
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	112	-	-
1050	Unobligated balance (total)	112	-	-
	Budget authority:			
	Appropriations, discretionary:			
1160	Appropriation, disc (total)	-	-	-
1930	Total budgetary resources available	112	-	-
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	4,336	1,000	1,000
3020	Outlays (gross)	(3,187)	-	-
3050	Unpaid obligations, end of year	1,149	1,000	1,000
3100	Obligated balance, start of year (net)	4,336	1,000	1,000
3200	Obligated balance, end of year (net)	1,149	1,000	1,000
	Budget authority and outlays, net:			
	Discretionary:			
	Outlays, gross:			
4011	Outlays from discretionary balances	3,187	-	-
4080	Outlays, net (discretionary)	3,187	-	-
4190	Outlays, net (total)	3,187	-	-

Program and Performance Statement

The Railroad Safety Technology Program is a competitive grant program for the deployment of train control technologies to passenger and freight rail carriers, railroad suppliers, and State and local governments. Projects may include the deployment of train control technologies, train control component technologies, processor-based technologies, electronically controlled pneumatic brakes, rail integrity inspection systems, rail integrity warning systems, switch position indicators and monitors, remote control power switch technologies, track integrity circuit technologies, and other new technologies that improve the safety of railroad systems.

FRA has given priority to projects that make technologies interoperable between railroad systems; accelerate the deployment of train control technology on high risk corridors, such as those that have high volumes of hazardous materials shipments, or over which commuter or passenger trains operate; or benefit both passenger and freight safety and efficiency.

No new funds are requested for this account for FY 2020. The FAST Act did not authorize new funding for the Railroad Safety Technology Grants program.

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY GRANTS (69-0702)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account
Number: 69-0702-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Obligations by program activity:			
0001	Railroad Safety Grants	24,029	8,000	2,000
0900	Total new obligations	24,029	8,000	2,000
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	34,535	11,000	3,000
1050	Unobligated balance (total)	34,535	11,000	3,000
	Budget authority:			
	Appropriations, discretionary:			
1100	Appropriation	-	-	-
1160	Appropriation, disc (total)	-	-	-
1930	Total budgetary resources available	34,535	11,000	3,000
	Memorandum (non-add) entries:			
1941	Unexpired unobligated balance, end of year	10,506	3,000	1,000
	Change in obligated balance:			
3000	Unpaid obligations, brought forward, Oct 1	25,437	43,000	24,000
3010	New obligations, unexpired accounts	24,029	8,000	2,000
3020	Outlays (gross)	(6,007)	(27,000)	(13,000)
3050	Unpaid obligations, end of year (gross)	43,459	24,000	13,000
	Memorandum (non-add) entries:			
3100	Obligated balance, start of year (net)	25,437	43,000	24,000
3200	Obligated balance, end of year	43,459	24,000	13,000
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	-	-	-
	Outlays, gross:			
4011	Outlays from discretionary balances	6,007	27,000	13,000

Account
Number: 69-0702-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
4080	Outlays, net (discretionary)	6,007	27,000	13,000
4180	Budget authority, net (total)	-	-	-
4190	Outlays, net (total)	6,007	27,000	13,000

Program and Performance Statement

For FY 2016, \$50 million was appropriated under the Railroad Safety Grants heading to be equally distributed to Railroad Safety Infrastructure Improvement Grants and Railroad Safety Technology Grants. The FAST Act repealed the Railroad Safety Infrastructure Improvement Grants program and did not authorize new funding for the Railroad Safety Technology Grants program.

No new funds are requested for this account for FY 2020.

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
INTERCITY PASSENGER RAIL GRANT PROGRAM (69-X-0715)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account

Number: 69-0715-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
Obligations by program activity:				
0001	Intercity Passenger Rail Grants	-	-	6
0900	Total new obligations	-	-	6
Budgetary Resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	9,606	10,000	10,000
1021	Recoveries of prior year unpaid obligations	77	-	-
1050	Unobligated balance (total)	9,683	10,000	10,000
1930	Total budgetary resources available	9,683	10,000	10,000
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	9,683	10,000	4,000
Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	23,703	13,000	2,000
3010	New obligations, unexpired accounts	-	-	6,000
3020	Outlays (gross)	(10,817)	(11,000)	(1,000)
3040	Recoveries of prior year unpaid obligations, Unexpired	(77)	-	-
3050	Unpaid obligations, end of year	12,809	2,000	7,000
Memorandum (non-add) entries:				
3100	Obligated balance, start of year	23,703	13,000	2,000
3200	Obligated balance, end of year	12,809	2,000	7,000
Budget authority and outlays, net:				
Discretionary:				
Outlays, gross:				
4011	Outlays from discretionary balances	10,817	11,000	1,000
4080	Outlays, net (discretionary)	10,817	11,000	1,000
4190	Outlays, net (total)	10,817	11,000	1,000

Program and Performance Statement

This competitive grant program encourages state participation in passenger rail service. Under this program, a State or States may apply for grants for up to 50 percent of the cost of capital investments necessary to support improved intercity passenger rail service that either requires no operating subsidy or for which the State or States agree to provide any needed operating subsidy. To qualify for funding, States must include intercity passenger rail service as an integral part of statewide transportation planning as required under 23 U.S.C. 135. Additionally, the specific project must be on the Statewide Transportation Improvement Plan at the time of application.

No new funds are requested for this account for FY 2020.

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAIL LINE RELOCATION AND IMPROVEMENT PROGRAM (69-X-0716)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account
Number: 69-0716 -0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Obligations by program activity:			
0001	Rail Line Relocation	-	2,000	5,000
0900	Total new obligations	-	2,000	5,000
	Budgetary Resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	12,812	14,000	12,000
1021	Recoveries of prior year unpaid obligations	738	-	-
1050	Unobligated balance (total)	13,550	14,000	12,000
1131	Unobligated balance of appropriations, permanently reduced	-	-	(2,000)
1930	Total budgetary resources available	13,550	14,000	10,000
	Memorandum (non-add) entries:			
1941	Unexpired unobligated balance, end of year	13,550	12,000	5,000
	Change in obligated balance:			
	Obligated balance, start of year (net):			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	4,280	2,000	1,000
3010	Obligations incurred, unexpired accounts	-	2,000	5,000
3020	Outlays (gross)	(737)	(3,000)	-
3040	Recoveries of prior year unpaid obligations, unexpired	(738)	-	-
3050	Unpaid obligations, end of year (gross)	2,805	1,000	6,000
3100	Obligated balance, start of year (net)	4,280	2,000	1,000
3200	Obligated balance, end of year	2,805	1,000	6,000
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	-	-	(2,000)

Account
Number: 69-0716 -0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
4011	Outlays from discretionary balances	737	3,000	-
4070	Budget authority, net (discretionary)	-	-	(2,000)
4080	Outlays, net (discretionary)	737	3,000	-
4180	Budget authority, net (total)	-	-	(2,000)
4190	Outlays, net (total)	737	3,000	-

Program and Performance Statement

This program provides Federal assistance to States for relocating or making necessary improvements to local rail lines. The program was repealed by the Fixing America's Surface Transportation (FAST) Act; however, the project eligibilities are included under the FAST Act authorized Consolidated Rail Infrastructure and Safety Improvements program.

No new funds are requested for this account for FY 2020.

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
CAPITAL ASSISTANCE HIGH-SPEED RAIL ACCOUNT (69-X-0719)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account

Number: 69-X-0719-X-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
Obligations by program activity:				
0003	Capital Assistance High-Speed Rail Corridors and IPR Service Grants	-	-	1,000
0004	Capital Assistance High-Speed Rail Corridors and IPR Service Oversight	201	1,000	-
0006	Capital Assistance High-Speed Rail Corridors and IPR Service Planning Activities	389	-	1,000
0900	Total new obligations	591	1,000	2,000
Budgetary Resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	55,880	56,000	55,000
1021	Recoveries of prior year unpaid obligations	927	-	-
1050	Unobligated balance (total)	56,807	56,000	55,000
Budget authority:				
Appropriations, discretionary:				
1131	Unobligated balance of appropriations permanently reduced	-	-	(53,000)
1160	Appropriation, discretionary (total)	-	-	(53,000)
1930	Total budgetary resources available	56,807	56,000	2,000
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	56,216	55,000	-
Change in obligated balance:				
Unpaid obligations:				
3000	Unpaid obligations, brought forward, Oct 1	1,346,658	1,274,000	1,194,000
3010	New obligations, unexpired accounts	591	1,000	2,000
3020	Outlays (gross)	(73,023)	(81,000)	(222,000)
3040	Recoveries of prior year unpaid obligations, unexpired	(927)	-	-

Account
Number: 69-X-0719-X-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
3050	Unpaid obligations, end of year	1,273,299	1,194,000	974,000
	Memorandum (non-add) entries:			
3100	Obligated balance, start of year (net)	1,346,658	1,274,000	1,194,000
3200	Obligated balance, end of year	1,273,299	1,194,000	974,000
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	-	-	(53,000)
	Outlays, gross:			
4011	Outlays from discretionary balances	73,023	81,000	222,000
4070	Budget authority, net (discretionary)	-	-	(53,000)
4080	Outlays, net (discretionary)	73,023	81,000	222,000
4180	Budget authority, net (total)	-	-	(53,000)
4190	Outlays, net (total)	73,023	81,000	222,000

Program and Performance Statement

Through this program, FRA provides capital grants to States to invest and improve intercity passenger rail service, including the development of new high-speed rail capacity. Activity in this account includes the \$8 billion provided by the American Recovery and Reinvestment Act of 2009 and an additional \$2.1 billion provided in subsequent enacted appropriations.

No new funds are requested for this account for FY 2020.

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NEXT GENERATION HIGH SPEED RAIL (69-X-0722)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account

Number: 69-0722-X-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Obligations by program activity:			
0003	Next Generation High Speed Rail	595	-	2,000
0900	Total new obligations	595	-	2,000
	Budgetary Resources:			
1000	Unobligated balance brought forward, Oct 1	3,615	3,000	3,000
1021	Recoveries of prior year unpaid obligations	-	-	-
1050	Unobligated balance (total)	3,615	3,000	3,000
	Budget authority:			
1131	Unobligated balance of appropriations permanently reduced	-	-	-
1160	Appropriation, disc (total)	-	-	-
1930	Total budgetary resources available	3,615	3,000	3,000
	Memorandum (non-add) entries:			
1941	Unexpired unobligated balance, end of year	3,019	3,000	1,000
	Change in obligated balance:			
3000	Unpaid obligations, brought forward, Oct 1 (gross)	1,077	1,000	-
3010	Obligations incurred, unexpired accounts	595	-	2,000
3020	Outlays (gross)	(594)	(1,000)	-
3040	Recoveries of prior year unpaid obligations, unexpired accounts	-	-	-
3050	Unpaid obligations, end of year (gross)	1,077	-	2,000
3100	Obligated balance, start of year (net)	1,077	1,000	-
3200	Obligated balance, end of year	1,077	-	2,000
	Budget authority and outlays, net:			
	Discretionary:			
4011	Outlays from discretionary balances	594	1,000	-
4080	Outlays, net (discretionary)	594	1,000	-
4180	Budget authority, net (total)	-	-	-
4190	Outlays, net (total)	594	1,000	-

Program and Performance Statement

The Next Generation High-Speed Rail Program funds research, development, technology demonstration programs, and the planning and analysis required to evaluate high speed rail technology proposals.

No new funds are requested for this account for FY 2020.

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
PENNSYLVANIA STATION REDEVELOPMENT PROJECT (69-X-0723)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account

Number: 69-0723 -0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
	Obligations by program activity:			
0002	Pennsylvania Station risk reduction projects	40,200	-	-
0900	Total new obligations	40,200	-	-
	Budgetary resources:			
	Unobligated balance:			
1000	Unobligated balance brought forward, Oct 1	40,200	-	-
1011	Unobligated balance transfer from other accounts [069-1140]	-	-	-
1050	Unobligated balance (total)	40,200	-	-
1930	Total budgetary resources available	40,200	-	-
	Memorandum (non-add) entries:			
1941	Unexpired unobligated balance, end of year	-	-	-
	Change in obligated balance:			
	Unpaid obligations:			
3000	Unpaid obligations, brought forward, Oct 1	2,161	19,000	12,000
3010	New obligations, unexpired accounts	40,200	-	-
3020	Outlays (gross)	(22,752)	(7,000)	(6,000)
3050	Unpaid obligations, end of year	19,609	12,000	6,000
	Memorandum (non-add) entries:			
3100	Obligated balance, start of year	2,161	19,000	12,000
3200	Obligated balance, end of year	19,609	12,000	6,000
	Budget authority and outlays, net:			
	Discretionary:			
4000	Budget authority, gross	-	-	-
	Outlays, gross:			
4011	Outlays from discretionary balances	22,752	7,000	6,000
4070	Budget authority, net (discretionary)	-	-	-
4080	Outlays, net (discretionary)	22,752	7,000	6,000
4180	Budget authority, net (total)	-	-	-
4190	Outlays, net (total)	22,752	7,000	6,000

Program and Performance Statement

Funds are used to redevelop the Pennsylvania Station in New York City, which involves renovating the James A. Farley Post Office building as Moynihan Station. Funding for this project was included in the Grants to the National Railroad Passenger Corporation appropriation in 1995 through 1997, and the Northeast Corridor Improvement Program in 1998. In 2000, FRA received an advance appropriation of \$20 million for 2001, 2002, and 2003. In 2001, the Congress specified that the \$20 million advance appropriation for the Farley Building be used exclusively for fire and life safety initiatives. In FY 2016, \$40 million was transferred from the Federal Transit Administration's Hurricane Sandy funding into this account for risk reduction projects at Moynihan Station.

No new funds are requested for this account in FY 2020.

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
FEDERAL-STATE PARTNERSHIP FOR STATE OF GOOD REPAIR (69-X-2810)
PROGRAM AND FINANCING
IN THOUSANDS OF DOLLARS (\$000)**

Account
Number: 69-2810-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
Obligations by program activity:				
0001	Federal-State Partnership for State of Good Repair Grants	-	-	136,000
0002	Federal-State Partnership for State of Good Repair Oversight	19	1,000	1,000
0900	Total new obligations	19	1,000	137,000
Budgetary resources:				
Unobligated balance:				
1000	Unobligated balance brought forward, Oct 1	25,000	275,000	524,000
1050	Unobligated balance (total)	25,000	275,000	524,000
Budget authority:				
Appropriations, discretionary:				
1100	Appropriation	250,000	250,000	-
1160	Appropriation, disc (total)	250,000	250,000	-
1930	Total budgetary resources available	275,000	525,000	524,000
Memorandum (non-add) entries:				
1941	Unexpired unobligated balance, end of year	274,981	524,000	387,000
Change in obligated balance:				
3000	Unpaid obligations, brought forward, Oct 1	-	-	1,000
3010	Obligations incurred, unexpired accounts	19	1,000	137,000
3020	Outlays	-	-	(5,000)
3050	Unpaid obligations, end of year (gross)	19	1,000	133,000
Memorandum (non-add) entries:				
3100	Obligated balance, start of year (net)	-	-	1,000
3200	Obligated balance, end of year	19	1,000	133,000
Budget authority and outlays, net:				
Discretionary:				
4000	Budget authority, gross	250,000	250,000	-
4011	Outlays from discretionary balances	-	-	(5,000)
4070	Budget authority, net (discretionary)	250,000	250,000	-

Account

Number: 69-2810-0-1-401

Line	Line Title	FY 2018 ACT	FY 2019 CY	FY 2020 BY
4080	Outlays, net (discretionary)	-	-	(5,000)
4180	Budget authority, net (total)	250,000	250,000	-
4190	Outlays, net (total)	-	-	5,000

Program and Performance Statement

Funding requested in the Federal-State Partnership for State of Good Repair account are intended to reduce the state of good repair backlog on publicly-owned or Amtrak-owned infrastructure, equipment and facilities. Eligible activities include capital projects to (1) replace existing assets in-kind or with assets that increase capacity or service levels, (2) ensure that service can be maintained while existing assets are brought into a state of good repair, and (3) bring existing assets into a state of good repair. Eligible recipients include states, local governments and Amtrak. The program was authorized in 2015 by the Fixing America's Surface Transportation Act.

No new funds are requested for this account for FY 2020.

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION**

**ADMINISTRATIVE PROVISIONS
APPROPRIATIONS LANGUAGE**

ADMINISTRATIVE PROVISIONS

SEC. 150. None of the funds provided to the National Railroad Passenger Corporation may be used to fund any overtime costs in excess of \$35,000 for any individual employee: *Provided*, That the President of Amtrak may waive the cap set in the previous proviso for specific employees when the President of Amtrak determines such a cap poses a risk to the safety and operational efficiency of the system: *Provided further*, That the President of Amtrak shall report to the House and Senate Committees on Appropriations each quarter within 30 days of such quarter of the calendar year on waivers granted to employees and amounts paid above the cap for each month within such quarter and delineate the reasons each waiver was granted: *Provided further*, That the President of Amtrak shall report to the House and Senate Committees on Appropriations within 60 days of enactment of this Act, a summary of all overtime payments incurred by the Corporation for 2019 and the three prior calendar years: *Provided further*, That such summary shall include the total number of employees that received waivers and the total overtime payments the Corporation paid to those employees receiving waivers for each month for 2019 and for the three prior calendar years.

Explanation: The above language has been updated for FY 2020 and specifies Amtrak reporting is due within 60 days of enactment of an appropriations act, not a specific calendar day.

Sec. 151. Notwithstanding section 1302 of title 40, United States Code, the Federal Railroad Administration may lease to others or enter into contracts, for such consideration, and subject to such terms and conditions, as it determines to be in the best interests of the government, for a term of up to 20 years for the continued operation and maintenance and capital reinvestment of the Transportation Technology Center near Pueblo, Colorado.

Explanation: The President's Budget seeks legislative language to further strengthen FRA's investment in and management of the Transportation Technology Center (TTC). The language would enable FRA to continue cost-effectively managing the facility through a third party, while providing significant railroad safety benefits.

Sec. 152. RAILROAD SAFETY USER FEES.

(a) SCHEDULE OF RAILROAD SAFETY USER FEES. The Secretary of Transportation shall prescribe by regulation, for application in fiscal year 2020 and in subsequent fiscal years, a schedule of rail safety fees for railroad carriers subject to Part A of Subtitle V of title 49, United States Code. The fees shall be imposed fairly on

railroad carriers, in reasonable relationship to appropriate criteria to be developed by the Secretary.

(b) COLLECTION PROCEDURES. The Secretary shall prescribe procedures to collect the fees. The Secretary may use the services of a department, agency, or instrumentality of the United States Government or a State or local authority to collect the fees, and may reimburse the department, agency, instrumentality, or authority a reasonable amount for its services.

(c) COLLECTION, DEPOSIT, AND USE. —

(1) Fees collected under this section shall be deposited in the Federal Railroad Administrations Safety and Operations account as offsetting collections.

(2) Such fees shall be collected and available to the extent provided in appropriations acts.

Explanation: The President's Budget proposes to impose a user fee that would reimburse the Federal Railroad Administration for the operational costs of rail safety inspectors and activities. Like other regulated industries, railroads benefit directly and indirectly from the government's efforts to ensure high safety standards, and it is therefore appropriate for railroads to bear some of the cost. FRA will begin collecting an estimated \$50 million in 2020.

Sec. 153. Of the unobligated balances of funds remaining from—

(a) Public Law 111–117 appropriated to "Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service", a total of \$53,404,128.31 is hereby permanently cancelled;

(b) Public Law 110–161 appropriated to "Rail Line Relocation and Improvement Program", a total of \$340,861.51 is hereby permanently cancelled;

(c) Public Law 111–8 appropriated to "Rail Line Relocation and Improvement Program", a total of \$485,764.84 is hereby permanently cancelled; and

(d) Public Law 111–117 appropriated to "Rail Line Relocation and Improvement Program", a total of \$1,495,398 is hereby permanently cancelled.

Explanation: The President's Budget proposes to impose a one-time rescission in the amount of \$55.7 million obtained from unobligated carry-over grant funding.

**RESEARCH, DEVELOPMENT & TECHNOLOGY
DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
BUDGET AUTHORITY
(In thousands of dollars)**

Account	Program	Classification (R, D, F, or A)	FY 2018 Actual	FY 2019 Annualized CR	FY 2020 Request
Railroad Research & Development			40,600	40,600	19,000
	Track		11,279	11,279	6,000
	Applied Research	R	7,479	7,479	3,130
	Development	D	2,038	2,038	1,970
	Research and Development Facilities (TTC)	F	1,762	1,762	900
	<i>Technology</i>		<i>0</i>	<i>0</i>	<i>765</i>
	Rolling Stock		10,322	10,322	5,210
	Applied Research	R	8,050	8,050	4,320
	Development	D	2,272	2,272	890
	<i>Technology</i>		<i>0</i>	<i>0</i>	<i>782</i>
	Train Control and Communication		8,086	8,086	4,400
	Applied Research	R	8,086	8,086	4,400
	Development	D	0	0	0
	<i>Technology</i>		<i>0</i>	<i>0</i>	<i>760</i>
	Human Factors		6,042	6,042	2,090
	Applied Research	R	4,822	4,822	2,090
	Development	D	1,220	1,220	0
	<i>Technology</i>		<i>0</i>	<i>0</i>	<i>314</i>
	Railroad Systems Issues		4,871	4,871	1,300
	Applied Research	R	4,140	4,140	1,150
	Development	D	581	581	0
	Administrative Expenses (GOE)	A	150	150	150
	<i>Technology</i>		<i>109</i>	<i>109</i>	<i>110</i>
Safety & Operations			3,777	4,047	4,093
	Administrative Expenses (GOE)	A	3,777	4,047	4,093
Subtotal, Applied Research			32,577	32,577	15,090
Subtotal, Development Research			6,111	6,111	2,860
Subtotal, Research and Development Facilities			1,762	1,762	900
Subtotal, Administration			3,927	4,197	4,243
Total FRA			44,377	44,647	23,093
Total Technology Transfer			109	109	2,731

FY 2020 Budget

Federal Railroad Administration Information Technology Budget Narrative

(Budget Authority in Thousands)

Budget Account	FY 2018 Enacted	FY 2019 Annualized CR	FY 2020 Request
Safety and Operations			
<i>Commodity IT SS WCF</i>	\$7,345	\$7,323	\$14,695
<i>Programmatic IT SS WCF</i>	\$0.00	\$0.00	3,895
<i>FRA Programmatic IT</i>	\$18,397	\$18,658	\$8,156
Total	\$ 25,742	\$ 25,981	\$ 26,746

The Federal Railroad Administration (FRA) is requesting **\$26.7 million** in FY 2020 for information technologies that support the full spectrum of FRA programs as well as the Department's initiative to transform and consolidate the management of certain IT solutions centrally by the Office of the Chief Information Officer (OCIO).

Commodity IT Shared Services through the WCF

OCIO will continue to provide FRA commodity IT shared services in FY 2020. FRA's share was based on actual commodity IT consumption in prior years as well as planned future consumption. OCIO, in collaboration with FRA, assumed a one-to-one cost estimate to transition all commodity IT to OCIO. FRA will only be charged for services rendered.

- **Commodity IT Shared Services** - FRA requests **\$14.7 million** for the Shared Services Commodities account for its share of Department investments in Cybersecurity and commodity information technology including voice, cable, and networks, desktop services, server operations, directory and messaging services, enterprise licensing and enterprise dashboards.

Programmatic IT Shared Services through the WCF

In addition to OCIO's responsibility to manage IT modernization planning, operations, compliance, governance, and cyber, OCIO will begin to transfer FRA programmatic IT investments in FY 2020. OCIO, in conversation with FRA, identified specific programmatic IT systems for transfer that focus on general support systems, IT management and registration. FRA will only be charged for services rendered.

- **Programmatic IT Shared Services** – FRA requests **\$3.9 million** for the Shared Services Programmatic account to contribute to OCIO's consolidation, cyber compliance, and modernization of mission support IT systems and applications. The Rail Road Safety Information System will be transferred as part of the Working Capital Fund

Programmatic spend for FY 2020.

Full Time Equivalents

- **Full Time Equivalents** – As part of the consolidation of IT functions under the WCF, FRA will transfer **16 FTE** supporting IT to the OCIO in FY 2020.

FRA IT Investments

The following programmatic IT investments will be maintained by FRA in FY 2020:

- **The Railroad Carload Waybill Sample Data System** – FRA requests **\$0.191 million** in FY 2020 for the Carload Waybill Sample Data System which creates the annual Railroad Carload Waybill Sample database which provides the only source of railroad commodity transportation data. FRA uses this data to support many FRA safety and security related projects. The Carload Waybill Sample Data System is jointly funded by FRA and the Surface Transportation Board (STB) and is managed and operated by the STB.
- **The Railroad Network System** - FRA requests **\$0.337 million** in FY 2020 to maintain and improve geospatial data related to U.S. railroads (e.g. rail lines, stations, crossings). This data is widely used within FRA for mapping and map based analysis and is also publicly distributed.
- **Railroad Enforcement System (RES)** - FRA requests **\$0.203 million** in FY 2020 to enable the FRA Office of Chief Counsel to efficiently process enforcement cases, monitor enforcement workload, provide detailed enforcement information report, and provide access via the Intranet to multiple users. This system processes sensitive information and only personnel within the Office of the Chief Counsel may access the system.
- **Web-based Grade Crossing Decision Support System** - FRA requests **\$0.036 million** in FY 2020 for a web site that allows FRA customers to conduct railroad grade crossing benefit cost analyses online. The web site is intended for state transportation departments, metropolitan planners, railroad inspectors, and the rail industry.
- **Railroad Credit Assessment and Portfolio Management System** - FRA requests **\$0.294 million** in FY 2020 for RCAPM, which is a system that assesses the credit quality of Railroad Rehabilitation and Improvement Financing Program applicants; maintains information on each borrower account relationship; and calculates various subsidy estimates and rates.
- **Decision Lens** - FRA requests **\$0.149 million** in FY 2020 for Decision Lens which is an enterprise prioritization and resource optimization solution. It is an online decision-making software based on multi-criteria decision making. Makes it easier to build repeatable and prioritized portfolios. Decision Lens provides FRA with a rational approach to selecting R&D projects to fund. This approach was chosen to accommodate the needs of FRA R&D staff and recommendations from the TRB review committee. Decision Lens consists of a series of macro-enabled Microsoft Excel spreadsheets for which functionality has been developed using Microsoft VBA.

FY 2020
Federal Railroad Administration
\$(000)

	FY 2018	FY2019	FY 2020
Safety and Operations			
Working Capital Fund			
Office of the Chief Financial Officer (RCFO)			
Compute [IT Tower]	\$824	\$800	\$645
Network [IT Tower]	\$2,469	\$2,200	\$2,785
End User [IT Tower]	\$2,127	\$2,535	\$3,414
Application [IT Tower]	\$393	\$411	\$401
Security & Compliance [IT Tower]	\$80	\$109	\$118
<i>Office of the Chief Financial Officer (RCFO) Subtotal</i>	\$5,893	\$6,054	\$7,362
Non-Working Capital Fund (Franchise Fund/ESC)			
Office of the Chief Financial Officer (RCFO)			
Application [IT Tower]	\$1,554	\$1,172	\$1,214
<i>Office of the Chief Financial Officer (RCFO) Subtotal</i>	\$1,554	\$1,172	\$1,214
<u><i>Corporate IT Spend Subtotal</i></u>	<u>\$7,447</u>	<u>\$7,226</u>	<u>\$8,576</u>
Programmatic IT Spend			
Office of the Chief Financial Officer (RCFO)			
Application [IT Tower]	\$668	\$683	\$693
IT Management [IT Tower]	\$490	\$500	\$507
<i>Office of the Chief Financial Officer (RCFO) Subtotal</i>	\$1,158	\$1,182	\$1,200
Office of Chief Counsel (RCC)			
Application [IT Tower]	\$405	\$167	\$170
IT Management [IT Tower]	\$46	\$33	\$33
<i>Office of Chief Counsel (RCC) Subtotal</i>	\$452	\$200	\$203
Office of Railroad Safety (RRS)			
Compute [IT Tower]	\$317	\$333	\$337
Application [IT Tower]	\$5,723	\$6,102	\$6,193
IT Management [IT Tower]	\$608	\$610	\$619
<i>Office of Railroad Safety (RRS) Subtotal</i>	\$6,648	\$7,044	\$7,150
Office of Railroad Policy & Development (RPD)			
Application [IT Tower]	\$1,017	\$1,056	\$1,072
IT Management [IT Tower]	\$172	\$172	\$175
<i>Office of Railroad Policy & Development (RPD) Subtotal</i>	\$1,189	\$1,228	\$1,246
Office of Administration (RAD)			
Data Center [IT Tower]	\$535	\$570	\$579
Compute [IT Tower]	\$214	\$222	\$226
Storage [IT Tower]	\$107	\$114	\$116
Network [IT Tower]	\$143	\$152	\$152
End User [IT Tower]	\$963	\$1,027	\$1,042
Application [IT Tower]	\$2,959	\$2,022	\$2,052
Delivery [IT Tower]	\$1,427	\$1,529	\$1,552

	FY 2018	FY2019	FY 2020
Security & Compliance [IT Tower]	\$1,300	\$1,357	\$1,378
IT Management [IT Tower]	\$1,872	\$1,691	\$1,716
<i>Office of Administration (RAD) Subtotal</i>	\$9,520	\$8,684	\$8,812
 <i><u>Programmatic IT Spend Subtotal</u></i>	 <u>\$18,966</u>	 <u>\$18,339</u>	 <u>\$18,611</u>
 <i><u>Safety and Operations Subtotal</u></i>	 <u>\$26,413</u>	 <u>\$25,565</u>	 <u>\$27,187</u>
 <u>Total IT Spend</u>	 <u>\$26,413</u>	 <u>\$25,565</u>	 <u>\$27,187</u>

**FEDERAL RAILROAD ADMINISTRATIONS
HISTORY OF APPROPRIATIONS
FY 2010 - 2019
(\$000)**

Account	FY 2010	FY 2011 ^{1/}	FY 2012	FY 2013 ^{3/}	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Safety and Operations	172,270	176,596	178,596	169,254	184,500	186,870	199,000	218,298	221,698	221,698
Safety and Operations	--	--	--	--	--	--	(6,710) ^{6/}	--	--	--
Rail Safety Technology Program	50,000	--	--	--	--	--	--	--	--	--
Railroad Research and Development	37,613	35,030	35,000	33,169	35,250	39,100	39,100	40,100	40,600	40,600
Railroad Research and Development	--	--	--	--	--	--	(1,960) ^{6/}	--	--	--
Rail Line Relocation and Improvement Program	34,532	10,511	--	--	--	--	(2,241) ^{6/}	--	--	--
Railroad Safety Grants	--	--	--	--	--	10,000	50,000	--	--	--
Consolidated Rail Infrastructure and Safety Improvements	--	--	--	--	--	--	--	68,000	592,547	255,000
Federal-State Partnership for State of Good Repair	--	--	--	--	--	--	--	25,000	250,000	400,000
Restoration and Enhancement Grants	--	--	--	--	--	--	--	5,000	20,000	5,000
Northeast Corridor Grants to the National Railroad Passenger Corporation	--	--	--	--	--	--	--	328,000	650,000	650,000
National Network Grants to the National Railroad Passenger Corporation	--	--	--	--	--	--	--	1,167,000	1,291,600	1,291,600
Operating Grants to the National Railroad Passenger Corporation	563,000	563,000	466,000	441,625	340,000	250,000	288,500	--	--	--
Capital and Debt Service Grants to the National Railroad Passenger Corporation	1,001,625	920,652	952,000	902,205	1,050,000	1,140,000	1,101,500	--	--	--
Capital and Debt Service Grants to the National Railroad Passenger Corporation	--	--	--	--	--	--	(5,000) ^{6/}	--	--	--
Grants to the National Railroad Passenger Corporation	--	--	--	297,100 ^{4/}	--	--	(267) ^{6/}	13,480 ^{8/}	--	--
Pennsylvania Station Redevelopment Project	--	--	--	--	--	--	40,200 ^{7/}	--	--	--
Next Generation High-Speed Rail	--	--	--	--	(1,973) ^{5/}	--	(4,945) ^{6/}	--	--	--
Northeast Corridor Improvement Program	--	--	--	--	(4,419) ^{5/}	--	19,163 ^{6/}	--	--	--
Capital Assistance for HSR Corridors and IPR	2,500,000	(400,000) ^{2/}	--	--	--	--	--	--	--	--
Magnetic Levitation Technology Deployment Program	--	--	--	--	--	--	--	--	--	10,000
Railroad Rehabilitation and Improvement Financing Program (discretionary)	--	--	--	--	--	--	--	--	25,000	17,000
Railroad Rehabilitation and Improvement Financing Program (mandatory)	18,441	23,692	16,905	33,445	43,845	31,455	563	1,809	100,371	60,811
Total FRA Budget Authority	4,377,481	1,329,481	1,648,501	1,876,798	1,647,203	1,657,425	1,718,863	1,866,687	3,191,816	2,951,709

Notes:

1/ FY 2011 full-year CR appropriations (P.L. 112-10) reflect a 0.02% across-the-board rescission.

2/ FY 2011 appropriations (P.L. 112-10) reflect a \$400M rescission of prior year unobligated balances.

3/ FY 2013 figures reflect 0.2% rescission and sequestered amounts excluded.

4/ The Disaster Relief Appropriations Act of FY 2013 (P.L. 113-2) provided funds to Amtrak for Hurricane Sandy, including \$32 million for repair work and \$86 million for disaster mitigation projects, less sequestration. Also in FY 2013, \$185 million was transferred from FTA to FRA for the Hudson Yards Project.

5/ FY 2014 Omnibus (P.L. 113-76) reflects rescissions on prior year unobligated balances of \$4.419M from the Northeast Corridor Improvement Program and \$1.973M from the Next Generation High-Speed Rail.

6/ FY 2016 Omnibus (P.L. 114-113) reflects the following rescissions from prior year unobligated balances: \$6,710,477 from Safety & Operations, \$1,960,000 from Railroad Research and Development, \$2,241,385 from Rail Line Relocation and Improvement, \$5,000,000 from Capital and Debt Service Grants to the National Railroad Passenger Corporation (NEC 2015), \$267,019 from Grants to the National Railroad Passenger Corporation, and \$4,944,504 from Next Generation High-Speed Rail. These amounts were then reallocated to: \$19,163,385 for Northeast Corridor Improvement Program and \$1,960,000 to Railroad Rehabilitation and Improvement Financing Program.

7/ In FY 2016, \$40.2M from the Disaster Relief Appropriations Act of FY 2013 (P.L. 113-2) was transferred from FTA to FRA for risk reduction projects at Pennsylvania Station, which was an area impacted by Hurricane Sandy.

8/ In FY 2017, \$13.48M from the Disaster Relief Appropriations Act of FY 2013 (P.L. 113-2) was transferred from FTA to FRA for the MTA/LIRR River to River Rail Resilience project, which was an area impacted by Hurricane Sandy.

